

**HUMBOLDT STATE UNIVERSITY**

# Polytechnic Prospectus





# HUMBOLDT STATE UNIVERSITY

September 1, 2021

Joseph I. Castro, Ph.D.  
Chancellor, The California State University  
401 Golden Shore  
Long Beach, CA 90802-42101



Dear Chancellor Castro,

As you know, Humboldt State University is an amazing place with special people. There is a vibrancy that flows from the community to campus and from our students to our faculty. There are also incredible opportunities to live and learn amidst the beautiful natural environment surrounding our campus and community.

We responded to the invitation to conduct a self-study toward a polytechnic designation by organizing teams of staff, faculty, students, and community partners to engage in a comprehensive, semester-long analysis of our existing strengths and new opportunities for growth. This process united and galvanized our campus, allowing us to recognize the many ways we are already operating as a polytechnic campus. We are ignited by the opportunity to infuse our unique character and creativity in our collective vision for a comprehensive polytechnic university for the 21st-century. This prospectus documents our existing strengths, our current approaches to meeting our challenges, and our plans for transformation as a polytechnic toward meeting the workforce needs of our region and state. It is a truly collaborative document written by teams from across our campus.

I am proud of the commitment, leadership, and engagement by the many individuals involved in the self-study process. I am grateful for the support our university has received already to make this dream a reality on behalf of our students and California. I sincerely look forward to working with you and your office, and our empowered campus community to breathe life into this plan as Humboldt State transforms into the CSU's third polytechnic university.

Very Respectfully,

**Tom Jackson, Jr., Ed.D.**  
President

# Executive Summary

## The Opportunity

California State University can transform Humboldt State University into California's third polytechnic institution and the first polytechnic in Northern California. The designation is a comprehensive strategy to address the workforce shortage in STEM fields, expand opportunities for students while addressing equity gaps, and revitalize the North Coast economy. A polytechnic university in the northern part of the state would give more California students access to high-demand programs, arm them with hands-on experience, and a strong understanding of sustainability.

## The Need

California needs another polytechnic campus focused on STEM workforce gaps. Increasingly, California families and news media share stories of students leaving the state to pursue a STEM education, or worse, giving up on their college plans. Across California, there are gaps in areas like engineering, technology, and healthcare. Access to these degree programs are limited at other CSU campuses and nationwide. For example, in Software Engineering at Cal Poly San Luis Obispo (SLO), a total of 575 students applied in 2020 with only 97 applicants selected (19.5% acceptance rate) and 34 students enrolled (35% yield rate). The anticipated development of a Software Engineering program at HSU would immediately serve 200 students. In Mechanical Engineering at Cal Poly Pomona, just 1,058 students were admitted from a pool of 3,140 total applicants in 2017 (34% acceptance rate). Anticipated development at HSU of a Mechanical Engineering program would serve 500 students. Along with addressing program capacity limitations at other CSU campuses, Humboldt State University is also uniquely situated to build upon its longstanding commitment to sustainability and provide solutions to the complex problems California faces today like climate resiliency, wildfire reduction, and a zero carbon footprint goal by 2045.

## The Solution

Humboldt State University's approach to becoming a polytechnic university is to fill unique and unmet workforce gaps. Polytechnic designation will immediately yield in more college-bound students choosing HSU as there is a rich history of programming in STEM fields—particularly in the area of Natural Resources—and the formal designation will be a clear signal to students about the type of education the campus offers. The campus will move quickly to offer several new degree programs by 2023 in areas like climate resiliency, wildfire management, mechanical engineering, and software engineering with a full buildout of depth and breadth across science, applied science, technology, and engineering through phased-in program development through 2029. Cybersecurity, nursing (MS), energy systems engineering, and sustainable agriculture are among several of the degree programs being contemplated. HSU proposed initiatives will not only distinguish us as a polytechnic institution but will enhance our ability to support the state's climate goals while being a model and leader for others across the country and globe.



## What will change as a result of this solution?

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Humboldt State University would expect to see enrollment increase 50% within three years and 100% within seven years, immediately adding highly educated and trained graduates to the California workforce. HSU would rapidly meet student demand for more programs and hands-on learning offered by polytechnic institutions. This would help California retain more students who are enrolling in STEM programs at universities within California and across the United States. Students have shown a willingness to move from their home regions to attend polytechnic institutions as well as move to residential campuses. Humboldt State is poised to be both. Already, about 85% of Humboldt students are from outside the local area. HSU will remain committed to its goal of access and reducing equity gaps by attracting students from North Coast tribal communities, assuring spots for students who earned an Associate Degree for Transfer, and helping to increase college-going rates on the North Coast. Humboldt State is the largest regional employer and there would be significant economic impact from increased student enrollment, construction, and hiring. Broadband expansion would also serve the region's K-14 schools and libraries, while increasing the number of local tech-related jobs.

## The Evidence: We can do it

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Humboldt State has the third-highest percentage of STEM majors in the CSU\*, behind only the other two CSU polytechnic institutions. HSU has the highest percentage of science and natural resource majors in the CSU. Humboldt State leads CSU campuses in graduates who go on to earn PhDs\*\* and is eighth nationwide for the rate of STEM students. HSU also plays a major role in diversifying the STEM workforce: 51% of recent graduates were the first in their families to earn a college degree, 41% of students are from underrepresented populations, 48% are low-income (Pell Grant eligible), and 59% of STEM majors are women. 95% of our graduates have some form of hands-on learning. Despite currently being one of the smallest CSU campuses, HSU ranks 7th in total grant funding. Faculty at HSU are over 50% female, 56% of STEM faculty are women, and the engagement in the self-study process has yielded over 1,000 pages of content in support of this designation. HSU is uniquely situated by the ocean, forest, tribal territory, and rich ecological biodiversity. Students study on the Coral Sea, an oceangoing vessel used primarily for undergraduate research, in the Fire Lab, where students study the properties of forest fires, and in the Schatz Energy Research Center, which focuses on research related to clean and renewable energy. In becoming a polytechnic, Humboldt State will build upon its longstanding commitment to sustainability and providing solutions to the complex problems California faces today.

## Financials

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Humboldt State University has made significant strides in righting itself from decades of structural budget challenges. As the university enters into the 2021-2022 academic year, we have balanced the budget and addressed the structural budget deficit of \$20 million in less than three years. Additionally, various diversification of investments and growth strategies have been actualized including land/property acquisition and capital campaign success and a strategic and academic plan to meet workforce needs has begun to strengthen our financial position.

With the generous infusion of state support—\$433 million of one-time funding and \$25 million in base support—Humboldt State University can **increase enrollment by 50% in three years and double enrollment within seven years**. Specifically, \$25 million would go toward the **immediate launch of several new academic programs by 2023**, covering expenses related to faculty hires, specialty accreditation, and student support services. Additionally, \$433 million would go toward improving technology and broadband support which is vital to our rural campus, and toward infrastructure for mixed-use space for housing and other basic needs, academic instruction, and the support of students' success.

\*Source: Data and figures about the percent of STEM majors (and STEM without engineering) in the CSU came from an analysis done in March 2018 from publicly available data on the CSU website.

\*\*Source: National Science Foundation, National Center for Science and Engineering Statistics, 2015 Survey of Earned Doctorates, published April 2017. Time period reflects 2006-2015.

## Proposed New Academic Programs by 2023

<b>Engineering</b>	Engineering Leadership MS ▪ Energy Systems Engineering BS Mechanical Engineering BS
<b>Technology</b>	Data Science BS ▪ Geospatial Analysis BS ▪ Software Engineering BS <i>Plus Cybersecurity Stackable Certificate and Information Technology Certificate</i>
<b>Applied Science</b>	Applied Fire Science & Management BS ▪ Cannabis Studies BA <i>Plus Sustainability Certificate</i>
<b>Science</b>	Marine Biology BS

**Competition/Threats** The two primary arguments against HSU becoming a polytechnic university are easy to resolve:

- **HSU has a recent history of under-enrollment (currently 30% under-enrolled).** While HSU is currently under-enrolled, this is precisely the argument FOR a polytechnic designation. With the designation comes recognition of our strength in STEM, the capacity to accept students interested in attending an institution with the prestige of a polytechnic, and the vehicle to connect these two pieces together.
- **Provide financial support for existing impacted programs at other campuses rather than provide resources to start new programs at HSU.** Cal Poly SLO and Cal Poly Pomona are exceptional universities that are located in the middle and southern regions of the state. A polytechnic in Northern California provides access for students and is an economic driver for the entire northern region.

**Team Strengths** HSU as the polytechnic of Northern California is a complement to the CSU system. Very nearly a polytechnic without the designation, HSU's focus on sustainability, traditional ecological knowledge, and serving underrepresented populations is unique among the CSU system. HSU has several assets that will contribute to the successful implementation of a polytechnic designation including:

- A new and accomplished senior leadership team.
- Widespread engagement and support both internally and externally of the self-study.
- Diversity of the faculty and student population.
- Overcoming a \$20 million budget shortfall in less than three years.
- A long history of and reputation of "learning by doing."
- Unique expertise in sustainability, traditional ecological knowledge, and supporting the success of diverse students in STEM majors.

### The Call to Action: Let's do it—Cal Poly Humboldt is a triple threat

- **Adds unique degree programs** aligned with the state of California's goals regarding areas like climate resilience and wildfire mitigation.
- **Creates access to impacted degree programs** in the CSU system that correlate with huge workforce gains.
- **Stimulates Northern California's economy** and specifically the North Coast as HSU is the largest employer and an economic driver for the region.

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# Background

## THE SELF-STUDY INVITATION ACCEPTED

Humboldt State University was formally invited to develop a rigorous self-study and prospectus on November 20, 2020 by Chancellor White ([Appendix A](#)). This invitation followed several months of high-level exploration between HSU and the Chancellor's Office regarding the possibility of HSU pursuing a polytechnic designation as well as the associated agreements regarding programmatic requirements ([Appendix B](#)). In those discussions it was determined that Humboldt State University would focus its polytechnic designation efforts to align with California's 21st century workforce needs as well as leverage the unique strengths of the North Coast region of California. HSU's strengths in natural resources and sciences, sustainability, and commitment to educating diverse populations make us well-poised to be the next CSU polytechnic. The CSU system has thriving polytechnic campuses in the middle and southern parts of the state and a Northern California polytechnic campus would quickly address workforce gaps, add access for diverse students, and drive the state economy. HSU enthusiastically accepted Chancellor White's invitation to conduct the prospectus ([Appendix C](#)) on November 25, 2020.

## SELF-STUDY APPROACH AND PROCESS

Following the self-study invitation from the Chancellor, President Jackson asked Provost and Vice President, Jenn Capps to lead the self-study process with Lisa Bond-Maupin, Deputy Chief of Staff and Special Assistant to the President as co-lead. Drs. Capps and Bond-Maupin organized this collaborative work in Spring, 2021 around the structure of the successful phase 1 strategic planning process just completed by campus in Fall. This included the formation of a self-study steering committee, a technical support team, administrative support, and seven working groups composed of students, faculty, staff, administrators, and community partners. See the full working group descriptions and membership [on page 83](#).

Drs. Capps and Bond-Maupin appointed co-leaders for each of the working groups, who along with the technical team formed the steering committee. A call also went out to campus and the larger community for anyone who would like to serve on a working group and an extensive list of volunteers was created. Using the volunteer list and their knowledge of expertise on campus, the working group co-leads selected and invited working group (and in one case, additional advisory group) members.

The working groups were organized to explore and report on the following aspects of our self-study. A charge was provided to each working group based on the information and timeline requested by the Chancellor's Office:

### ► Self-Study Planning Team Leads

**Jenn Capps—Provost and Vice President for Academic Affairs**

**Lisa Bond-Maupin—Deputy Chief of Staff and Special Assistant to the President**

### ► Academic Programming

**Co-Leads: Eileen Cashman—Chair, Engineering**

**Bori Mazzag—Chair, Mathematics & Computer Science**

Report on existing programming in four areas at HSU (Science, Applied Science, Engineering, and Technology) and create a phased plan to have at least three degree programs in each of the four areas by 2023, as well as report on a plan to add three additional programs across all four areas in 2026 and 2029. The goal is to have at least three degree programs in each of the four areas by 2023 and at least six additional programs across all four areas by 2029.

### ► Business Plan & Financial Pro Forma

**Co-Leads: Anthony Baker—Budget Resource & Safety Analyst, College of Natural Resources & Sciences**

**Amber Blakeslee—Director, University Budget Office**

Describe HSU's current budget picture, the steps we are taking to address budget realignment, and create a polytechnic business plan that demonstrates how HSU can support the additional components necessary to achieve the polytechnic designation.

### ► External Partnerships

**Co-Leads: Connie Stewart—Executive Director of Initiatives  
Frank Whitlatch—Vice President for University Advancement**

Provide information on fundraising, grant activity, community engagement, and the integration of industry/community in academic programming relevant to the polytechnic designation. (Note: this group also gathered letters of support from partners found in [Appendix D](#)).

### ► Facilities & Other Resources

**Co-Leads: Michael Fisher—Associate Vice President, Facilities Management  
Arne Jacobson—Director, Schatz Energy Research Center; Professor, Environmental Resources Engineering**

Create a prospectus section focused on existing HSU infrastructure, facilities, and related resources and identify/recommend additional space necessary to accommodate polytechnic status. When considering “space” think beyond HSU campus space including virtual/online space, space in partnership with two and four year institutions, and space within and beyond Humboldt County.

### ► Inclusive Student Success & Management of Enrollment Growth

**Co-Leads: Clint Rebik—University Registrar  
Dan Saveliff—Director, Educational Opportunity Program & Student Support Services**

Tell the story of how HSU will incorporate principles, programs, and practice with regards to inclusive student success as we move toward a polytechnic designation and grow enrollment.

### ► Interdisciplinarity & the Role of the Liberal Arts

**Co-Leads: Rosamel Benavides-Garb—Interim Dean, College of Arts, Humanities & Social Sciences  
Matthew Johnson—Professor, Wildlife**

Develop the prospectus section of the self-study document that documents our existing strengths and new opportunities as a comprehensive polytechnic university in the liberal arts and in interdisciplinary collaboration. To create a model vision for the role of the liberal arts, the infusion of the liberal arts in multidisciplinary teams, and other cross-disciplinary integration.

### ► University Name Change

**Co-Leads: Stephanie Lane—Director of Alumni Relations  
Dale Oliver—Dean, College of Natural Resources & Sciences**

Put forward two university name recommendations incorporating the word “polytechnic” after engaging input from students, faculty, staff, alumni, community members, and all other stakeholders deemed valuable to contributing to well-informed, sound recommendations.

### ► Technical Support Team

**Kristen Gould—Director of Marketing, Marketing & Communications  
Michael Le—Interim Director of Institutional Research, Analytics & Reporting  
Elavie Ndura—Associate Vice President for Diversity, Equity & Inclusion and Campus Diversity Officer  
Nancy Olson—Training Specialist, Human Resources  
Mary Oling-Sisay—Vice Provost and Dean of Undergraduate & Graduate Studies  
Cutcha Risling Baldy—Chair, Native American Studies**



Guided by the values of inclusivity and diversity of perspectives, collaboration, transparency, and creativity the working groups met and exceeded their charges aided by the technical team. They used a combination of the following approaches:

- **data and existing report collection and consultation**
- **surveys**
- **focus groups**
- **feedback forms**
- **open forum**
- **attendance and consultation at standing meetings**

Each working group also consulted data on each of the two existing polytechnic universities and collaborated with their counterparts at each of the Cal Polys to gather information that helped inform this proposal.

Regular updates to campus continue to be part of this process as we conclude the self-study and develop our proposal to the CSU. Avenues of communication include:

- **bi-weekly reports to university senate**
- **weekly reports to Academic Affairs**
- **periodic external updates using local media outlets**
- **periodic internal updates via email**

Communication, collaboration, and information management is also facilitated through the maintenance of a designated website: [humboldt.edu/polytechnic](http://humboldt.edu/polytechnic). This site includes information on the self-study goals and process, planning participants, informational updates, FAQs, resources, and opportunities for feedback via the site. The collective result of our consultation, communication, and analysis forms the body of this proposal.

HSU also launched a campus-wide Change Management Initiative to ensure all who are impacted by changes related to strategic plan implementation and the possibility of becoming a polytechnic are consistently informed, engaged, and prepared with intention and skill. Utilizing Prosci ADKAR methodology adopted by the CSU, HSU leadership, managers, and supervisors will be equipped with practical tools and training, empowering them to implement people-centered change management practices with their teams on a consistent basis. Focused change management consulting and coaching will be available for major change initiatives on campus on an ongoing basis.

# Why HSU?

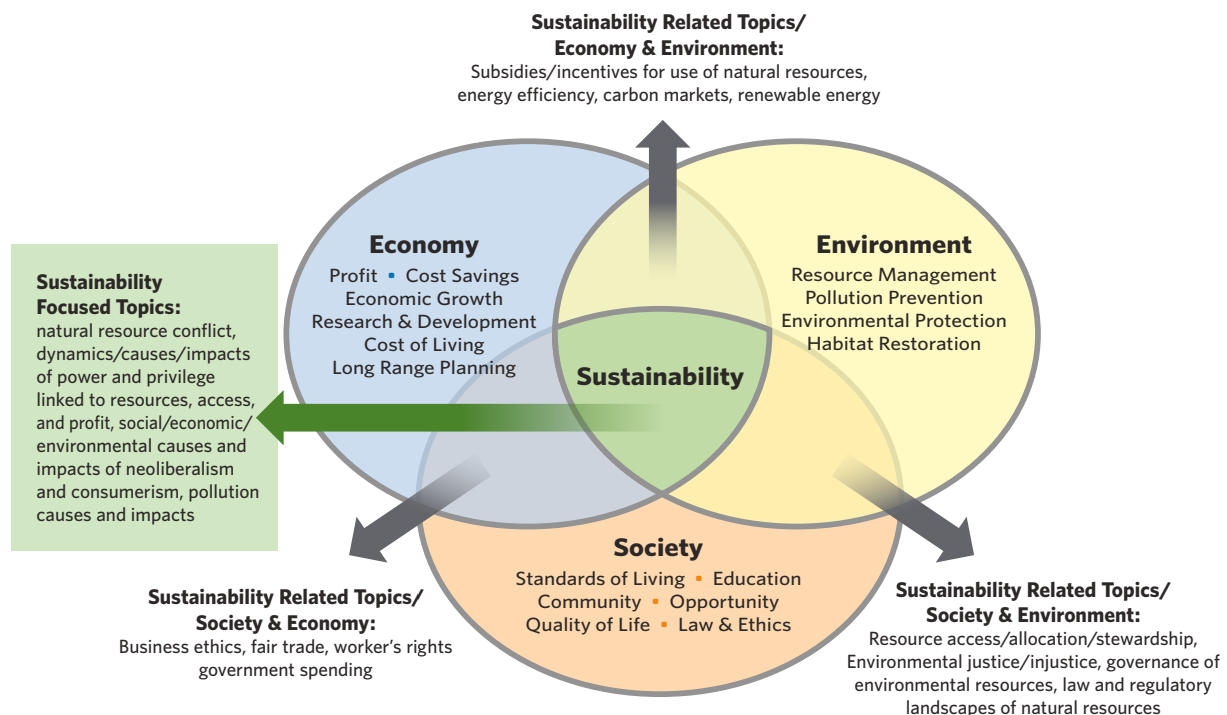
## How HSU is poised to become the next CSU Polytechnic

A polytechnic university in the northern part of the state will provide California with access to high-demand academic programs, while improving education and career opportunities on the North Coast. Graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences which include health and agriculture are highly sought after, as are graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. California and the nation are facing a huge workforce need that will only grow over the next 10 years. With the CSU's existing Polytechnics impacted, and HSU under-enrolled, this designation would allow Humboldt State University to provide access to the education that students and employers alike are seeking.

HSU is a natural choice for this opportunity. It is an acknowledgment of our strengths in sustainability and hands-on learning, our highly regarded academic programs and interdisciplinary studies, our unique location, our commitment to social justice and equity, and our relationships with local tribes. Students are able to learn in a living laboratory studying in the forest, on an ocean-going research vessel, underwater in scientific diving courses, and in our Schatz energy lab. As a polytechnic, our institution would become increasingly attractive to students from California and beyond, raise our national profile, increase the amount of grants for research, and inspire additional donations from individuals.

At Humboldt State, sustainability is widely reflected in our vision and values. Conserving resources, championing social responsibility, as well as reducing our overall carbon footprint, are the stated goals of numerous initiatives and policies. HSU is deeply integrated with Association for the Advancement of Sustainability in Higher Education (AASHE) and the Sustainability Tracking, Assessment & Rating System (STARS), earning a Gold rating, which guides our operations on campus. With our recently adopted "Path to Platinum," it is our intent to achieve the highest STARS rating in the CSU in two years with the next reporting cycle and achieve a Platinum rating in six years.

Sustainability on the HSU campus can be defined as inclusive of three dimensions. Sustainability experts often use a three-legged stool as a symbol for sustainability. The social, economic, and environmental components each represent one of the stool's legs. If one of the legs is missing, the sustainability stool can't balance or function. A common illustration of sustainability is the diagram depicting three overlapping circles representing environmental needs, economic needs, and social needs. The area where the circles overlap and all three needs are met is the area of sustainability.



Sustainability-related topics with society-environment interconnections might include but are not limited to: food insecurity, resource access/allocation, environmental justice/injustice, land use policy or politics, governance of environmental resources, law and regulatory landscapes of natural resources, population, and demography.

Sustainability-related topics with society-economy interconnections might include but are not limited to dynamics/causes/impacts of poverty, business ethics, fair trade, worker's rights, social impacts of supply chains and markets, access to education, and causes/impacts of housing insecurity.

Sustainability-related topics with economy-environment interconnections might include but are not limited to theories/analysis of economic development, natural resource supply chains, sustainable business practices, lifecycle analyses, environmental impacts of neoliberalism and consumerism, energy efficiency, carbon markets, and renewable energy.

## **POLYTECHNIC DEFINITION**

During preliminary planning processes between HSU and the Chancellor's Office in Fall 2020 we co-determined that a polytechnic university must offer a robust set of degree offerings in science, technology, engineering and applied sciences. There is also an understanding that a polytechnic university must have math programming. This was informed by an analysis of existing polytechnic universities as well as an eye toward infusing some flexibility to incorporate the needs of the 21st century student and workforce.

**Applied Sciences** are disciplines that apply scientific principles, methods, and theories to practical goals and issues. Programs in this area may also fall into one of the other science categories, but focus on applied aspects. Specifically existing and future programs in health and agriculture will be counted in the applied science section.

**Engineering** disciplines focus on the study of designing, planning and evaluating systems, products, and infrastructure that are responsive to societal needs.

**Math** is the science of structure, order, and relation that has evolved from elemental practices of counting, measuring, and describing the shapes of objects. Of note, mathematics is often a standalone category but for the purposes of this self-study, it is included in the sciences section.

**Science** programs are primarily centered on understanding the processes and principles in the natural world.

**Technology** programs are disciplines that focus on techniques, skills, and processes that support building, maintaining, using, and improving systems for society.

HSU is recognized as having numerous science and applied sciences degrees as well as two engineering programs, and two technology degrees. In addition to these programs the campus offers a wide variety of programs in the professional, business, education, arts, humanities, and social sciences. Per previous negotiations it was agreed that HSU will demonstrate a minimum of three degree programs in each of the four areas by 2023 for polytechnic designation (including existing programming). HSU will commit to further build out of polytechnic programming in a phased manner by adding an additional three programs by 2026 to achieve polytechnic "operating status" and another three by 2029 to signify polytechnic "thriving status." Please note that build out of additional programming in 2026 and 2029 denote three programs total in 2026 and another three in 2029 with flexibility for programming across the four areas.

## **ALREADY A POLYTECHNIC**

Humboldt State's unique natural surroundings serve as both a living laboratory and a source of inspiration. HSU has a long-standing commitment to sustainability and social justice, and has developed specialized programs related to climate resiliency, wildfire management, natural resources, renewable energy, traditional ecological knowledge, marine sciences, and more. The campus currently offers 52 undergraduate majors and 12 graduate degrees in three Colleges: the College of Natural Resources & Sciences, the College of Arts, Humanities & Social Sciences, and the College of Professional Studies.

## DATA POINTS DEMONSTRATING POLYTECHNIC ALIGNMENT AND OPPORTUNITY

Humboldt State University is already very nearly the third polytechnic California State University, but without the designation. HSU has the highest percentage of science and natural resource majors in the CSU system and the third-highest percentage of STEM majors overall, only behind Cal Poly SLO and Cal Poly Pomona. According to National Science Foundation data, the HSU geology program ranks #2 in the country in the percentage of undergraduates that go on to complete doctorates in the earth sciences ranking above Stanford, UC Berkeley, and Harvard. There is a paucity of access to STEM higher education degree programs in the Northern California region and the designation of HSU as the CSU's northern polytechnic would create access in Northern California as well as the Pacific Northwest and beyond.

### ► Capacity

HSU is currently 30% under-enrolled and has the capacity to admit students immediately. Many students are seeking the prestige and training afforded by a polytechnic institution. The formal designation would be a clear signal to students about the type of education the campus offers. This coupled with the addition of up to 10 new STEM programs by 2023, Humboldt would expect to see enrollment increase 50% within three years and double enrollment within seven years. Students have shown a willingness to move from their home regions to attend polytechnic institutions as well as residential campuses. Humboldt is poised to be both. Already, about 85% of Humboldt students are from outside the local area.

### ► Faculty, staff

HSU draws exceptional faculty with 202 faculty members (111 tenure-line, 91 lecturers) affiliated with existing STEM majors. For example under the leadership of coach Todd Golder, (Rangeland Resource Science), HSU participated in The Society for Range Management (SRM) online plant identification contest in 2021 placing TOPS in the USA Awards. Amy Spowles (Biological Sciences) and Matt Johnson (Wildlife) are champions for equity in STEM, with particular passion for creating welcoming and supporting environments for traditionally underrepresented students. Their work has brought transformational change to HSU and they were recognized by the California State University by winning the 2020 Faculty Innovation and Leadership Award for their work in Place-Based Learning Communities in the College of Natural Resources & Sciences.

HSU also has exceptional staff members like Dr. Nievita Bueno Watts and Lonyx Landry who lead the Indian Natural Resources, Science & Engineering Program (INRSEP) whose purpose is to provide academic and research support services to first-generation, low-income, and historically underrepresented students in STEM disciplines with a focus on American Indian and Indigenous students.

#### ■ Faculty Representation by Ethnicity

Cal Poly SLO has the largest number of faculty at 885, followed by Pomona at 630, and HSU at 286. The distribution by ethnicity is depicted below:

Faculty Representation by Ethnicity (IPEDS for 2019)			
	HSU	Pomona	SLO
<b>American Indian/Alaska Native</b>	7 (2.4%)	3 (0.5%)	3 (0.3%)
<b>Asian American</b>	13 (4.5%)	155 (24.6%)	78 (8.83%)
<b>African American</b>	6 (2.1%)	16 (2.5%)	16 (1.8%)
<b>Native Hawai'ian/Pacific Islander</b>	0 (0%)	2 (0.3%)	0 (0%)
<b>Hispanic/Latino</b>	18 (6.3%)	57 (9.0%)	41 (4.6%)
<b>White</b>	208 (72.7%)	331 (52.5%)	648 (73.2%)
<b>Multi-Racial</b>	3 (1.0%)	2 (0.3%)	9 (1.0%)
<b>Unknown/Other</b>	24 (8.4%)	28 (4.4%)	48 (5.4%)
<b>Non-Resident Alien</b>	7 (2.4%)	36 (5.7%)	42 (4.7%)
<b>TOTAL</b>	286	630	885

## ► Students

Humboldt State has the third-highest percentage of STEM majors in the CSU, behind only the other two polytechnic institutions. It has the highest percentage of science and natural resource majors in the CSU. Humboldt State leads CSU campuses and is eighth nationwide for the rate of STEM students who go on to earn PhDs. HSU plays a major role in diversifying the STEM workforce. Fifty-one percent of recent graduates were the first in their families to earn a college degree, while 41% of Humboldt students are from underrepresented ethnic groups, and 48% are low-income (Pell Grant eligible). Within Humboldt's STEM programs, 59% of students are women.

### ▪ Student Demographic Comparisons

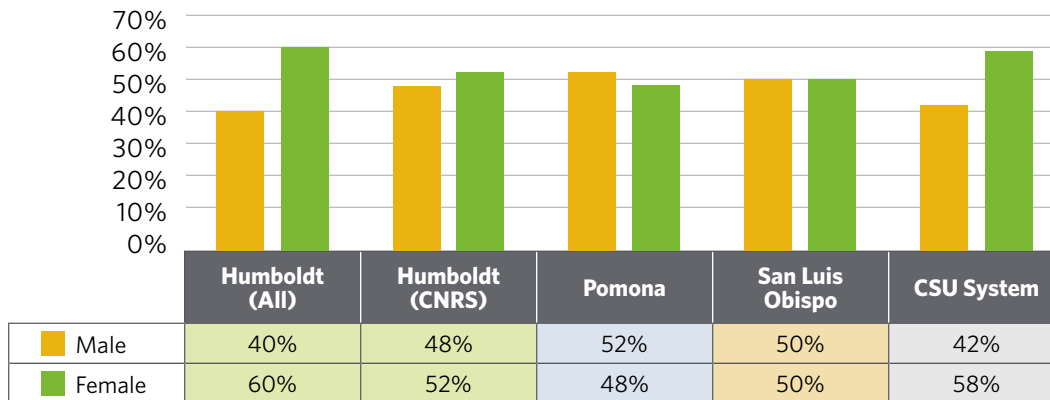
At the beginning of Fall 2020, HSU had an enrollment of 6,431 students with 5,942 full-time enrolled (FTE). In comparison to the current CSU polytechnics, this places HSU enrollment and FTE at 22% and 23% the enrollment of Pomona (respectively) and 29% and 27% the enrollment of San Luis Obispo (respectively).

#### » Gender Equity

Currently at HSU, male student enrollment falls well below female student enrollment by 20 percentage points (40% to 60%), which is not dissimilar to the gap in the CSU overall (16 percentage points difference, 42% to 58%). In comparison to the polytechnics, male student enrollment is slightly higher at Pomona (52% to 48%) and at SLO, there is no difference by gender in student enrollment.

When isolating HSU enrollment to the College of Natural Resources & Sciences, the gender gap narrows significantly, from -20% point difference to a -4% point difference, male to female (48% to 52%, respectively; HSU Fall Enrollment Dashboard), as detailed in the table below.

**Gender by Campus, Fall 2020**  
Sources: Calstate.edu enrollment dashboard, 3/2/2021  
HSU-CNRS Enrollment dashboard, Fall 2020



#### » Student Major-Type Enrollment Comparisons (by college)

When comparing student enrollment by percentage across the three general areas of Liberal Arts, Business and Professional Studies, and STEM, HSU and Pomona are similar, while SLO is strikingly different. The table below depicts the distribution for Fall, 2020:

Distribution for Fall 2020			
% of Students	HSU	Pomona	SLO
Liberal Studies	28%	32%	16%
Business/Prof	31%	23%	14%
STEM	41%	45%	70%

» **Income, Traditionally Underrepresented, and First-Generation Equity**

When disaggregating student enrollment data by demographic characteristics associated with socioeconomic and cultural inequalities, HSU ranges moderately above and below CSU averages, with a higher percentage of Pell Grant recipients enrolled at HSU (+8 percent, 53% vs 45% for the CSU), and lower percentages of traditionally underrepresented and first-generation students (-10% and -9%, respectively), as detailed in the table below.

In comparison, Pomona ranges closely to CSU averages (+/- 5%) and SLO ranges significantly below (-28% to -36%) CSU averages in student enrollment among low-income, first-generation, and traditionally underrepresented students of color, also detailed in the table below.

Equity Comparisons by Student Demographic Category  
Income (Pell), Ethnicity, and Parent Education  
Students Enrolled Fall 2020\*

	CSU	Humboldt	Pomona	SLO
<b>Pell Recipients</b> (% Difference to CSU)	45%	53% (+8%)	47% (+2%)	17% (-28%)
<b>Traditionally Underrepresented</b> (% Difference to CSU)	49%	39% (-10%)	52% (+3%)	19% (-30%)
<b>First-Generation College</b> (% Difference to CSU)	55%	46% (-9%)	51% (-4%)	19% (-36%)

\*Data Source: Calstate. edu Enrollment Dashboard, retrieved 3/21/2021

► **Funded research prominence**

Humboldt State has the 7th-highest level of grant funding of the 23 campuses in the CSU, despite currently being one of the smallest campuses. Assistant Professor Dr. Catalina Cuellar-Gempeler (Biological Sciences) recently earned a Faculty Early Career Development Program (CAREER) Award from the National Science Foundation (NSF) Total = \$949,557. This award is one of the highest honors given by NSF to young faculty members in science and engineering. It is NSF’s most prestigious award in support of early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization. Dr. Rafael Cuevas Uribe and Dr. Matthew Johnson applied, and received, a USDA grant for Fisheries and Wildlife programs focused on building internship opportunities for diverse students in local fisheries, land trusts, nonprofit environmental firms and state and federal agencies. These are just a few examples of the prestigious grant funded research that occurs at HSU.

► **Specialized facilities and locations**

Humboldt State University’s main campus is located on 144 acres and includes 74 buildings consisting of approximately two million square feet (of which approx. 600,000 is non-state space). The University also owns, leases, or has use agreements to an additional 1,600+ acres, including satellite locations, buildings, saltwater and freshwater marshes, lakes and ponds, forest lands, and a sand dune preserve.

The university has identified more than 180 specialized campus facilities that support hands-on student learning and research. These facilities are spread across all three of HSU’s academic colleges and other non-academic divisions, and they are used to enable high-quality experiential education in a wide variety of disciplines. They include facilities associated with natural resources, natural and physical sciences, and engineering, such as the Coral Sea, an oceangoing vessel used primarily for undergraduate research, the Fire Lab, where students study the properties of forest fires, and the Schatz Energy Research Center, which focuses on research related to clean and renewable energy, along with multiple forest land holdings and scientific collections.

In the arts, humanities, and social sciences, specialized facilities range from the Biological Anthropology Research Center, the Geospatial Archaeology Research Laboratory, and the Dendroecology Laboratory to facilities associated with the performing arts, such as the John Van Duzer Theatre and Fulkerson Music Hall. And in professional studies, students study the mechanics of walking in the Biomechanics Lab, work with young children in the Child Development Lab, receive training through the Scientific and Leadership Diving Program, and more. Some of the facilities used by students are unique within the CSU system and the Northern California region, including the Vascular Plant Herbarium (largest among the CSUs), micro-CT scanner, Fish Hatchery, and Schatz Energy Research Center. Possibilities abound for real-world research experience available to undergraduates—something few other universities can boast. A few examples of HSU’s specialized facilities are described in more detail below.



### Fish Hatchery

The Fish Hatchery trains students in husbandry techniques using stocks of cutthroat trout, rainbow trout, and sturgeon. The fish are also valuable resources for teaching (dissections and experiments in Ichthyology and Fish Physiology) and for research. Undergraduate access to an on-campus hatchery a rarity among U.S. universities, giving HSU students absolutely unparalleled hands-on experience and resulting in a strong track record of successful job placement upon graduation.

Fisheries students handling live trout in the on-campus Fish Hatchery.

### Forest Lands (Living Laboratories)

HSU currently owns and manages three forested lands that are used as outdoor laboratories for students and faculty in multiple departments. One of the forest lands is the 385-acre L.W. Schatz Tree Farm, located about 25 miles southeast of campus, which was donated to HSU in 1987 to provide a demonstration tree farm operation for the students and faculty, and to serve as an example for owners of small forest parcels. Multiple classes from the Forestry & Wildland Resources Department take field trips to the Tree Farm every year (on average, 115 students per year), and the Tree Farm serves as the location for senior capstone projects. There are also two-three undergraduate summer employees who assist with maintenance and data collection. Multiple faculty-lead research projects have been conducted at the Tree Farm, usually with assistance from graduate students. These research projects have included investigations into the use of different technologies for forest inventory; forest thinning impacts on water yields; small mammal inventories; carbon storage in different tree species; and epiphyte diversity.



Forest restoration at the Schatz Tree Farm.

## Schatz Energy Research Center

The [Schatz Energy Research Center](#) supports the development and deployment of clean and renewable energy systems worldwide. Founded in 1989, the Center has grown from a small team of faculty and students to a dynamic and globally recognized leader in renewable energy research and design. The Schatz Energy Research Center is an internationally recognized institute



The Schatz Energy Research Center.

focused on research and project implementation related to clean and renewable energy. The Center is currently housed in an ~8,000 square foot facility consisting of two buildings. The main building (~6,200 ft<sup>2</sup>) meets LEED Gold equivalent standards and was completed in 2011. The 2nd building (~1,900 ft<sup>2</sup>) was completed in 2017. Together, the two buildings include 34 open office workstations, five private offices, two conference rooms, two laboratory spaces, a machine shop, an electronics shop, an outdoor testing area, a 20-kW solar array, and an electric vehicle charging station. The Center has specialized equipment and software related to testing and evaluation of solar energy systems, wind power systems, biomass energy, building energy efficiency, renewable energy microgrids, clean transportation systems, and air quality and greenhouse gas pollutants. It includes the only laboratory in North America that is ISO 17025 accredited to conduct tests according to the leading international framework (IEC 62257-9-5:2018) for evaluating the quality and safety of off-grid solar products.



Students engaged in project work.



Student testing a solar water pumping system.

Schatz Center facilities foster student learning opportunities and provide hands-on experience in emerging energy technologies. Since 2017, an average of 17 students annually have engaged in research through employment at the Schatz Center, and between four to six students annually are involved with our education and outreach program. The annual budget for student employment is ~\$175,000. Four fellowships provide \$40,000-\$50,000 of support per awarded student for two years of graduate study in energy-related programs at HSU. In addition to students, the Center's team includes a director, eight affiliated faculty members, and 23 professional staff members. Affiliated faculty regularly integrate Schatz Center research into classroom activities, and the Center supports laboratory instruction and course curricula through tours and demonstrations.

The Center's community education programs include K-12 energy workshops and tours along with hands-on activities at community events across California's North Coast. The Schatz Center also sponsors eight talks a year through the Sustainable Futures speaker series and regularly presents research, including through the Schatz Research webinar series.





### Research Vessel Coral Sea

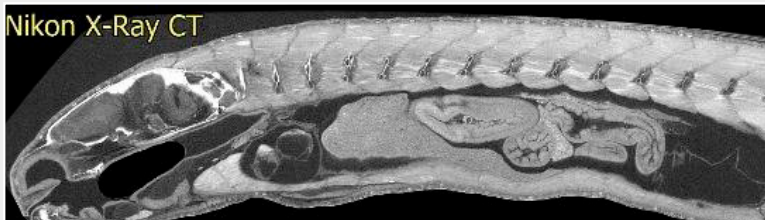
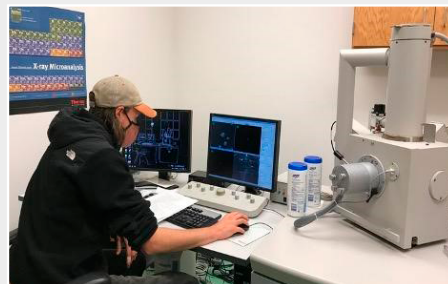
The ocean-going [R/V Coral Sea](#) is a 90', 143-ton research vessel available for academic and externally funded research cruises. The R/V Coral Sea has capacity for 39 scientists and 5 crew for brief academic cruises, and has 15 bunks and a full galley that allows for more extended cruises, and may be contracted to external groups (visiting researchers, USGS, EPA, NOAA, Scripps, etc.). The ship has a 6,260-gallon field capacity and a 2,500 nm range with a seven-

day cruise endurance. The 440 square ft deck space is open and includes 5,000 lb 15' x 13' A-frame and two-ton knuckle boom, 15' davit crane, and three winches, along with an array of state-of-the-art oceanographic equipment available to marine scientists working with box cores, dredges, nets, and other large oceanographic equipment. Two laboratory spaces (wet and dry) inside the vessel offer ample space for working with marine specimens and computers for tracking of scientific data.

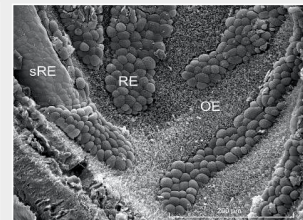
The R/V Coral Sea has provided many course-based research experiences that students and former students point to as among their most memorable HSU experiences. The vessel provides an average of about 35 academic cruises per year and an average of 674 student experiences each year. From 2015 to 2019 (pre-pandemic) the Coral Sea provided a base of operations for 173 academic cruises for 3,369 student experiences. During that same five-year period from 2015 through 2019, the Coral Sea completed 98 revenue-generating contract cruises (average of about 20 contract cruises per year) for agencies such as NOAA, USGS, and Army Corps of Engineers, which provided revenue to support the academic mission.

### Instrumentation

HSU's commitment to exceptional undergraduate education is perhaps best showcased by the extensive and remarkably accessible research-grade imaging facilities that enable visualization of all kinds of biological and abiotic structures. Examples of instruments with advanced digital image capture include a Leica DM750 Compound Microscope, a Leitz Inverted Microscope, and an Olympus SZX 16 Dissecting Microscope. We have both [Scanning and Transmission Electron Microscopes](#): an FEI Quanta 250 (eSEM with EDS), as well as a Philips 208S (TEM). Nationally, we're one of the only colleges to offer coursework with hands-on training in electron microscopy: BIOL 564, Electron Microscopy, covers both SEM and TEM use in biology, and GEOL 482, Instrumental Methods in Geology, covers SEM, primarily focusing on EDS (Energy- Dispersive X-ray Spectroscopy) analysis of mineral composition. These machines are also heavily used by graduate students and faculty researchers, to produce images for publication and for presentation at national and international scientific conferences. Our newest acquisition is a Nikon XTH 225 MicroCT scanner, used to capture 3D X-ray data.



Nikon X-Ray CT



Top right: Graduate student using the FEI Quanta 250 eSEM (Scanning Electron Microscope). Bottom left: Salamander in longitudinal section. Image produced by helical CT scanning. Soft tissues of the animal have been rendered radiopaque by staining with iodine solution. Bottom right: Figure 25: A scanning electron micrograph of the nasal tissues of the rough skinned newt *Taricha granulosa*, taken on the Quanta 250 eSEM. (Bottom images by John O. Reiss)

## ► Partnerships at the heart of our work

Looking beyond the university, the regional setting and facilities managed by HSU's many partners are integral elements of student learning, research, and creative activities at Humboldt State. The university's partners include Native American tribes, federal and state agencies, county and city governments, private companies, and non-profit organizations. While a full listing of partners is beyond the scope of this self-study report, some examples include the Blue Lake Rancheria Tribe, the Yurok Tribe, the U.S. Wildlife and Fisheries Service, the National Oceanic and Atmospheric Administration, the U.S. Forest Service, Redwood State and National Parks, the City of Arcata, the City of Eureka, Green Diamond Resource Company, Pacific Gas & Electric Company, the Mattole Field Institute, Lanphere Dunes National Natural Landmark, the Humboldt Historical Society, the Redwood Discovery Museum, and many others. Collectively, HSU's partners enrich the learning of thousands of students each year and help enable numerous research efforts and creative activities. Some examples of key partnerships are listed by category below and later in this document.

### ■ Government

**U.S. Forest Service Pacific Southwest Research Station: Redwood Sciences Laboratory:** Dedicated as the [Redwood Sciences Laboratory](#) in 1976, this recently renovated three-story laboratory houses research hydrologists, geologists, wildlife and fisheries biologists, plant ecologists, and biometricians, research technicians, and support personnel who are conducting watershed, wildlife, and fisheries research applicable to the Pacific Northwest from Alaska to California. The laboratory is located on the Preston Forest Research Site, a wooded, three-acre site on the Humboldt State University campus in Arcata, California. It contains office and laboratory space, including a library, conference room, and data processing area. Humboldt State University maintains two labs for geospatial research. The Redwood Science Lab and the Institute for Spatial Analysis (ISA) Lab provide students and faculty with state-of-the-art resources for GIS, remote sensing, cartography, spatial modeling, and spatial programming. The Redwood Sciences Lab also houses one of HSU's geospatial laboratories. The lab is currently being prepared for student and faculty researchers. It will provide students and faculty with state-of-the-art resources for GIS, remote sensing, cartography, spatial modeling, and spatial programming.

Additionally, The Department of Forestry partnered with the U.S. Forest Service, CalFIRE and a number of local tribes and nonprofits such as the Mid Klamath Watershed Council to train students while directly providing needed services in fire prevention, mitigation, and prescribed burning.

### ■ Equity Partnerships

The City of Arcata, Humboldt State University, and the lead foundation for all of Humboldt County's nonprofits (Humboldt Area Foundation) are partnered under the banner of Equity Arcata to increase diversity, equity, and inclusion throughout the region. Students have the opportunity to serve all three of these organizations as interns and Service Learners through a number of classes in our Social Sciences, Social Work, Humanities, and Critical Disciplines. Meredith Oram teaches a Political Science 381S - Office of Diversity, Equity & Inclusion - Community Leadership in Action/Equity Arcata course that facilitates students' participation in Equity Arcata. In addition to learning about collective impact, servant leadership, and racial identity development, students participate as change agents for racial equity in systems level work.

### ■ Industry

The Arcata Marsh & Wildlife Sanctuary is home to the City of Arcata's innovative wastewater treatment facility. The sanctuary is 307 acres, including freshwater marshes, salt marsh, tidal sloughs, grassy uplands, mudflats, brackish marsh, approximately five miles of walking and biking paths and an Interpretive Center. By integrating conventional wastewater treatment with the natural processes of constructed wetlands, Arcata has succeeded in turning wastewater into a resource. Located at the north end of Humboldt Bay, the sanctuary is situated along the Pacific Flyway, a major migratory route for thousands of birds that breed in the far north and winter in California, Mexico, and Central and South America. The Arcata Marsh & Wildlife Sanctuary has probably the highest bird populated coastal site between Bodega Harbor and Washington, with literally thousands of birding visitors annually and organized bird walks held at least weekly year-round. The Marsh has hosted over 300 bird species.



Left: Students engaged in water quality research. Right: View of the Arcata Marsh and Wildlife Sanctuary.

- » **Environmental Firms** HSU holds partnerships with all our local land trusts, multiple federal and State agencies (including NOAA, USDA, and the USFS), a number of local, regional, and national nonprofits working in advocacy and environmental protection (including Redwood Community Action Agency, Humboldt Baykeepers, Northcoast Environmental Center, the Environmental Protection and Information Center, and several more). These partnerships provide students in our Environmental Science & Management, Environmental Engineering, and Environmental Studies programs, as well as many other interested students, the opportunity for hands-on experience in research, data collection, advocacy, policy, conservation, and protection.
- » **Humboldt-Del Norte County Medical Society** Jianmin Zhong and the Biology Department, and the Humboldt Del Norte Medical Society worked together to create a pre-medical shadowing internship course that partners pre-med students with local providers to get 45 hours of shadowing in clinics and hospitals after completing 45 hours of professional development and preparation.

■ **Tribal**

The [Blue Lake Rancheria \(BLR\)](#) is a federally recognized Native American tribal nation located about five miles east of HSU, with trust lands that span the Mad River, within the ancestral territory of the Wiyot people. The Tribe has a productive strategic partnership with HSU resulting in significant opportunities for hands-on field site work for students and professors on an almost unparalleled array of leading-edge climate-smart, clean energy, and other technology innovations. Since 2009, the Tribe has worked with hundreds of HSU students in the context of dozens of client-based classes that involve onsite activities at BLR. The Tribe has also partnered with the Schatz Energy Research Center on multiple research projects. BLR facilities relevant to student learning and research include two renewable energy microgrids, four solar photovoltaic arrays, advanced lithium battery electricity storage systems, a biodiesel manufacturing facility, air quality monitoring systems, a community water grid, telecommunications systems, and access to the Mad River and its riparian habitat. In addition, the Tribe is in the process of building the Toma Resilience Campus, a state-of-the-art, multi-purpose venue to support regional resilience, clean energy/smart technologies development, training/workforce development, and STEAM education. It will also include retail space, a kitchen, café, and business incubator. Currently the Toma is in the architecture design and engineering phase and scheduled to open in 2023. The Tribe also funds the Blue Lake Rancheria Fellowship for Clean Energy Studies at the Schatz Energy Research Center, and hosts several paid internships annually for HSU students at BLR across its government operations.



Left: HSU students onsite at BLR investigating the community scale microgrid solar array and inverters. Right: Aerial view of the 420-kilowatt solar photovoltaic array at BLR, with CA Highway 299 and the Mad River in the background.

# Framework for a *Different* Comprehensive Polytechnic

Higher education, as an instrument of change, must equip students with the skills, knowledge, and wisdom necessary to meet the needs of the present generation without compromising the needs of future generations. Though the nuances of sustainability—ecological, social, and economic—can be endlessly debated, there is general consensus that higher education’s most fundamental purpose is to prepare a citizenry prepared to work toward achieving healthy, resilient, just, and prosperous human communities that are living within their means, economically and ecologically.

This will require polytechnic curricula that draw across all disciplines – natural resources and other sciences, professional studies, and the arts, humanities, and social sciences. Curricula will emphasize the technical disciplinary training for which we have national expertise, but be professional in a way that fosters disciplinary synthesis, and liberal in its cultivation of intellectual agility. Technical training will be balanced with liberal arts that are rooted in and focused purposefully on environmental responsibility and social justice. Much will also be informed by Indigenous communities and ways of knowing, as many Native peoples have lived sustainably in their places since time immemorial. The classic humanities are critically necessary, to provide the context, for example, of how history, philosophy, and the arts both reflect humanity’s past and shape and inform its future relations with the natural world upon which our fate now so clearly depends. Achieving such a vision will require that faculty recognize not only their programs’ unique contributions to the breadth of majors available for students, but also their responsibility to broaden the education of all students, regardless of their major.

An innovative polytechnic that cultivates environmental responsibility and social justice must infuse science with arts, ethics, and affection, its curriculum must nurture the mind and the heart. Such holistic learning engages the study and application of aesthetics, the arts, criticism, context, representation, critical citizenship, ethical conduct, spiritual well-being, and community. As Rachel Carson’s life and words have shown us, “If facts are the seeds that later produce knowledge and wisdom, then the emotions and the impressions of the senses are the fertile soil in which the seeds must grow.” In the final analysis, our success as educators is not measured by how well our students contribute to our own disciplines, but by how well they contribute to theirs, and by how those contributions promote a sustainable and just world.

## **THE ROLE OF THE LIBERAL ARTS**

The liberal arts (Box 1) are crucial to activate and cultivate the human skills described above, and are thus necessary to avoid the trappings of vocationally-driven polytechnic curricula stuck in the 20th century. As both a suite of classic disciplines and an educational approach, the liberal arts are vital to cultivate the capacity to think critically and creatively, the intellectualism free of the constraints of convention that the workforce demands, and that passion required to advance a more just and sustainable world.

At HSU, we contest the notion that liberal arts are in opposition to applied training, including in technical disciplines, and we disrupt assumptions that the only purpose of the arts, humanities, and social sciences is to serve, augment, or support the sciences. Knowledge-making in higher education occurs through communication, which requires theoretical and historical understandings of literacy, visual representation, and language, including writing, performance, and speaking. In turn, these modes of communication produce knowledge through critical inquiry, creative thinking, and applying multiple frameworks for understanding, including cultural, emotional, and linguistic frameworks. Therefore, the unique knowledge-making disciplinarity of the arts, humanities, and social sciences is essential for HSU’s vision of a 21st century polytechnic.

In the workforce, the arts and humanities play a crucial role in helping companies and organizations understand these complex discourse and attitudes, and their insights will increasingly shape decisions made by politicians, entrepreneurs, civil-society activists, consumers, and citizens. Indeed, scholars of artificial intelligence in the workforce predict that the social sciences and humanities will become even more important, asserting that languages, art, history, economics, ethics, philosophy, and psychology can teach the skills that will be instrumental in the development and management of technical solutions. And the wicked problems posed by sustainability, which has been called “the ultimate liberal art” demand the breadth, agile mindset, and creativity provided by a liberal educational approach.

**Box 1.** Here, we offer brief operational definitions of Liberal Arts and liberal education.

We define “the Liberal Arts” broadly and comprehensively, to include the visual and performing arts, humanities, languages, social sciences, and natural sciences. Liberal refers to “free” in the original conception of the term meaning it is liberated from immediate needs of utilitarianism. In other words liberal arts offer multiple forms of knowledge in addition to instrumental rationality guided technical solutions of problems or knowhow (technē).

The liberal arts are an approach as well as a broad group of disciplines. A liberal arts approach encourages expansiveness (rather than siloing) of fields of knowledge (both episteme and technē) and embraces knowledge from a diversity of sources and cultural perspectives. A Liberal Arts education includes a commitment to a broad yet integrated curriculum and interdisciplinary learning. A liberal arts education ensures that students from all majors receive exposure to a breadth of academic disciplines and guards against the trappings of overly narrow disciplinary emphases.

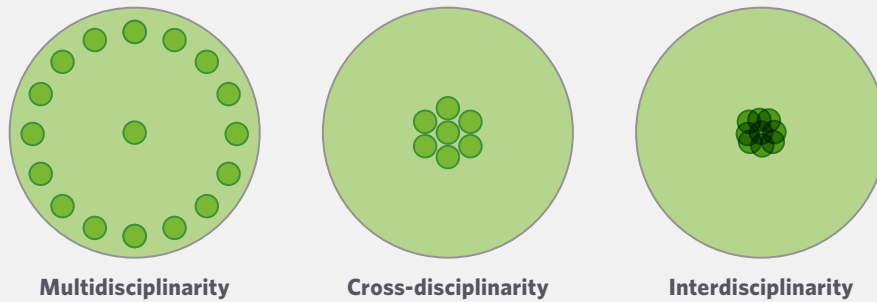
Liberal Arts education is closely intertwined with the principles of Liberal Education, which fosters habits of mind and body to sustain lifelong learning, support critical citizenship and nurture social change. These include but are not limited to, critical thinking, creative thinking, effective communication (written, oral, and embodied), cultural humility, problem solving, informational, technological, scientific and quantitative literacies, systems thinking, environmental and social responsibility, a framework of equity and social justice, an ongoing engagement with “big questions” central to the 21st century.

## **INTERDISCIPLINARITY**

Many polytechnic curricula were devised in an era when people could stay in single disciplines or even in the same jobs for decades. That era is history. Research now indicates workers will change jobs many times in their careers, and even move across fields several times in their lifetime. These data make clear our charge: train students for life-long learning, and the capacity to unlearn and relearn to stay adaptive for tomorrow’s workforce. A 21st century polytechnic cannot focus on training students with deep single disciplinary emphases.

Indeed, the environmental and social challenges of the 21st century cannot be solved by single disciplines, or single ways of knowing. Durable and just solutions demand multi-, cross-, and interdisciplinarity, as clarified in Box 2. Truly transdisciplinary research and training also fosters cross-cultural competencies, and the capacity to see a problem from a different point of view. Interdisciplinarity does not just bring several disciplines to bear to solve a problem, it helps us identify, interrogate, and frame problems in ways single disciplines cannot. Today’s students know that social challenges and environmental problems are two sides of the same coin. Our curricula should also reflect this profound recognition. An interdisciplinary mindset is requisite for solving wicked problems.

**Box 2.** Here, we offer brief operational definitions of **multi-, cross-, and interdisciplinary programs and activities.** Zeigler (1990) used the following figure to conceptualize multidisciplinary, cross-disciplinary, and interdisciplinary.



This suggests multidisciplinary is a team of professionals from different disciplines who work together while drawing on their respective disciplinary knowledge; that cross-disciplinary is viewing one discipline from the perspective of another; and interdisciplinary is integrating knowledge and methods from different disciplines, using a real synthesis of approaches. This can also be applied to curricula: multidisciplinary curricula involve bringing multiple disciplines into the same class or degree, while cross-disciplinary in curricula involves one department including knowledge from other departments for purposes defined by the first discipline, and interdisciplinary curricula includes courses or expertise brought together for the purpose of synthesis.

**At HSU, we define true interdisciplinarity** as the approach to conduct scholarship, including problematization, prediction, understanding, interpretation, emancipation, and deconstruction, using a variety of the scholarly paradigms available (ontologies, epistemologies, and methodologies), including and especially the paradigms that have not conventionally been enshrined within disciplines recognized by higher education, which we may as yet not even recognize. True interdisciplinarity does not just help us solve problems, it helps us identify, interrogate, and frame problems in ways that do not privilege or occlude certain solutions or contributions over others.

Data from the workforce reinforce that technical skills alone are not adequate to adapt to the future work necessary for a sustainable world. A 21st century polytechnic must also work to develop an agile mindset and cultivate the uniquely human skills (Box 3) that enable us to collaborate effectively. Evidence shows that the fastest job growth in the coming decades will be for graduates with strong STEM and essential skills. Jobs demanding strong STEM skills with low requirements for uniquely human skills are projected to decline. In just the past few years, employers are noting that the greatest gap is in social, not technical, skills.

**Box 3. The uniquely human skills** and key to unlocking the habits of mind and body for students to pursue their passions and effect change. They are vital to prepare a citizenry prepared to work toward achieving healthy, resilient, just, and prosperous human communities that are living within their means economically and ecologically<sup>A</sup>. Moreover, in an increasingly digital world, future jobs (many of which do not yet exist) will likely have most of the atomizable and automatable tasks stripped out of them, elevating the importance of uniquely human skills. Employers recognize that narrow technical skills depreciate over time, while human skills appreciate<sup>B</sup>.

**Intellectual agility**  
**Wonder**  
**Empathy**  
**Sensemaking**  
**Creativity**

**Exploration**  
**Collaborative skills**  
**Emotional intelligence**  
**Judgment**  
**Service orientation**

**Negotiation**  
**Design mindset**  
**Cross-cultural competency**  
**Social intelligence**  
**Transdisciplinarity**

A See Orr (1994) *Earth in Mind*.

B This point, and the list of human skills here, are from McGowan and Shipley (2020) *The Adaptation Advantage*

As a minority-serving institution, many of our students bring to our campus powerful assets for interdisciplinary success from their lived experiences and community-based knowledge—such as multilinguality, cross-cultural competencies, and pluriversality. Utilizing a strength-based model that honor’s cultural wealth will amplify these skill sets through classwork. Curricula and pedagogies that validate these assets, identities and cultural backgrounds will not only foster inclusive student success, they will propel all students to cultivate agile mindsets and the adaptive thinking necessary to advance their careers. This approach is both the right and the smart thing to do.

## **INDIGENOUS PERSPECTIVES AND TRADITIONAL ECOLOGICAL KNOWLEDGE (TEK)**

HSU’s unique positionality as a 21st century polytechnic includes its geography. The HSU campus is located in the traditional homelands and unceded territory of the Wiyot people. The region has a significant Native American population and includes 12 Tribal Nations, including the state’s largest Tribal Nations and largest land based tribes. The City of Eureka is also noteworthy as the first municipality to return stolen tribal lands with the return of Tuluwat to the Wiyot Tribe in 2019. In addition to HSU’s well-earned reputation in the fields of natural resources, it is also home to some of the longest standing Native and Tribal Programs within the CSU and UC systems including its Native American Studies Department and the ITEPP (Native American Center for Academic Excellence) and INRSEP (Indian Natural Resources, Science & Engineering Program + Diversity in STEM) programs. Humboldt State University’s local service area is also home to many of the Tribal Nations who are leading the way in managing and co-managing their traditional lands, waterways, airways, and natural resources with methods that include traditional values and traditional science coupled with Western science practices. This position offers a powerful opportunity to attract students from all over the country and the world, while also servicing our local area, and empowering graduates to learn from Indigenous knowledge wherever their careers may take them.

At HSU, we believe in working directly with tribal communities. These fruitful relationships have positioned HSU to offer a cutting-edge and unrivalled polytechnic experience to current and future students. HSU has the opportunity to build on all of these unique strengths and step forward with intentionality and integrity in our work with tribal partners. Indigenous knowledge systems are especially important to consider in the development of a polytechnic institute because Indigenous knowledge is fundamentally interdisciplinary and applied. Indigenous knowledge is also at the forefront of cutting-edge research interventions in the sciences and Western academic institutions.

With a focus on environmental responsibility and social justice, an HSU polytechnic campus will be especially well-suited for an emphasis on Indigenous knowledge systems (Box 4). Indigenous peoples have lived with and stewarded their lands for time immemorial. Indeed, Indigenous peoples make up 5% percent of the global population and yet, protect 80% of the globe’s biodiversity. Native peoples in California developed sophisticated and complex ecological management regimes that promoted habitat heterogeneity and increased biodiversity for centuries. Indigenous scholars and Indigenous community knowledge holders have critically analyzed conventional notions of sustainability, conservation, and other Western environmental perspectives to reveal that they often perpetuate resource exploitative practices. In fact, the rhetoric of sustainable development has at times been used to continue the process of Indigenous land dispossession, a phenomenon referred to as “green colonialism.” As a 21st century polytechnic, we have an opportunity to do better in true partnership.

Traditional ecological knowledge is also called by other names, including Indigenous knowledge or Native science, and refers to the evolving knowledge acquired by Indigenous and local peoples over hundreds or thousands of years through direct contact with the environment. There are many considerations when engaging with TEK, especially around sustainability, and as a 21st century polytechnic it’s our responsibility to uphold sovereignty and self-determination while working to empower Indigenous students, communities, and partners. Consultation is not collaboration. A polytechnic that foregrounds TEK will also be clear in developing and sustaining collaborative policies.

#### **Box 4.** What is **Indigenous Knowledge?**

Indigenous Peoples compose 6-8% of the population globally (approx. 350 million) and 1.5% of the United States population (approx. 4.1 million peoples). All Indigenous groups come from distinct lands, cultures, languages, worldview, philosophies, and ways of knowing. Indigenous Peoples have millennia-old Indigenous Knowledge (IK) systems that are tribally and geographically specific. Indigenous Knowledge is also referred to as traditional ecological knowledge (TEK), tribal knowledge, tribal science, Native science, Indigenous environmental science, Indigenous environmental studies. Indigenous knowledge systems are diverse and they are rooted within specific cultural and geographical contexts. However, there are important distinctions between Indigenous bodies of knowledge and Western/colonial knowledge. Indigenous knowledge (IK) is:

- communal, not individual. Some IK includes culturally-sensitive information that tribal nations may not choose to share with researchers or universities. Some IK includes information that can, and should, be accessed by all, including Indigenous perspectives on law, business, government, technology, health, art, history, etc.
- embedded in community practices, rituals, relationships and is difficult to codify.
- valid in its own right and does not need to be verified or legitimized by other bodies of knowledge.
- not frozen in time; some knowledge adapts to reflect the dramatic changes reoccurring within Indigenous communities today.
- the purview of sovereign nations. Tribal peoples in the United State are sovereign nations and have the right to exercise self-determination over their knowledge systems—therefore, HSU needs to work in partnership with tribal nations—not extract knowledge from.
- fundamentally interdisciplinary.

## **SOCIAL JUSTICE**

Justice is socially constructed: justice for some communities is sometimes at odds with social justice overall. This suggests that social justice, as a code for policy, planning, and action, should be defined within the context of Humboldt State University as a 21st century polytechnic. A multidimensional approach to social justice recognizes the socio-historical context of HSU as a public institution that is: Hispanic-serving, located on the land of Wiyot people, committed to environmental stewardship and sustainability, committed to students and staff success, and committed to community collaboration and outreach.

This framework informs an institutional definition of social justice and operationalizes how it manifests in teaching and learning at HSU (Box 5). For a 21st century polytechnic, social justice is only attainable through interdisciplinary scholarship that addresses issues of equity through redistribution, recognition, and representation which could be addressed through persistent critique and analysis of the scientific knowledge and epistemological standpoints that are included and excluded in the formal and informal curricula.



**Box 5.** A definition and operationalization of **social justice** at HSU.

#### **Definition**

Social justice is full and equitable participation of all groups in a society that is mutually shaped to meet their needs. The process for attaining the goal of social justice. Social justice should be democratic and participatory, inclusive, and affirming of agency and capacities for working collaboratively to create change. Social justice actively and pervasively examines, analyzes, and combats all forms of oppression: exploitation, marginalization, cultural imperialism, culture of silence, and violence (Young, 2009).

At HSU, as an institution of higher education, social justice is:

- anti-oppressive (including, but not limited to, anti-racist, anti-sexist, anti-homophobic, anti-xenophobic);
- basic education (NOT a superficial addition or insertion);
- pervasive (included in all aspects of teaching-learning, research, service);
- a process (performative, never ending, evolving, improvable, NOT a motto or series of events);
- critical pedagogy (morally guided and praxis oriented, informed by conscientization and critical of socialization).

#### **Justice-Oriented Frameworks in Teaching and Learning:**

The following frameworks could inform teaching and learning and the University should provide policies and programs (including professional development, incentives, requirements for RTP, etc.) to implement them:

- Critical Pedagogy (Freire, 1968/ 1970): Critical of banking concept of education (knowledge transfer) and domestication, informed by praxis (transforming action) and conscientization;
- Multicultural Education (Banks & Banks, 1989; Nieto, 1992): “a process of comprehensive school reform that challenges racism and prejudice by transforming the curriculum and instructional practices.”
- Culturally Relevant Pedagogy (Ladson-Billings, 1994): “A pedagogy that empowers students intellectually, socially, emotionally, and politically by using cultural and historical referents to convey knowledge, to impart skills, and to change attitudes”.
- Culturally Responsive Instruction (Gay, 2000): “the use of cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to, and effective for, them”.
- Culturally and Linguistically Responsiveness (Hollie, 2012): validate, affirm, build, bridge
- Culturally Sustaining Pedagogy (Paris & Alim, 2014): “seek to perpetuate and foster—to sustain—linguistic, literature, and cultural pluralism as part of schooling for positive social transformation”.

## **ONLINE**

With a few notable exceptions, prior to the pandemic, Humboldt State University had a very small footprint of coursework delivered online, primarily concentrated in the summer session and through our Professional and Continuing Education college—the College of Extended Education & Global Engagement (CEEGE). As we move forward with our plans to become a comprehensive 21st-century polytechnic focused on inclusive student success, more robust online courses are integrated into our plan. Three immediate areas for online delivery are a general education pathway available fully online, at least six new online degree program pathways by 2023, and moving large lecture-style courses online that are paired with smaller laboratory experiences.

While we continue to develop our strengths in hands-on learning, the incorporation of sustained and larger online course offerings is critical to our university’s success as we move toward an inclusive, North Coast polytechnic institution. Humboldt County is large, rural, and has a limited housing inventory. Strategically infusing online coursework into our menu of options will create additional opportunities for future students to enroll, minimize overcrowding and competition for housing and parking, and create additional flexibility for access to education.

# Academic Programming

## STEM Designation

Humboldt State University has a longstanding reputation for excellence in natural resources and science education providing a strong foundation for a polytechnic designation.

### DESCRIPTION OF PROGRAMMING IN EACH OF THE FOUR AREAS (EXISTING)

The table below depicts Humboldt State University's existing offerings in Applied Science, Engineering, Science, and Technology.

Existing Programs in Engineering, Technology, Applied Science, and Science			
Engineering	Technology	Applied Science	Science
Environmental Resources Engineering BS Environmental Systems MS	Computer Science BS Energy Technology & Policy MS	Anthropology BA Environmental Science & Management BS Fisheries Biology BS Forestry BS Kinesiology BS, MS Nursing BSN Rangeland Resource Science BS Natural Resources MS Wildlife BS	Biology BS Botany BS Chemistry BA/BS Geology BA/BS Mathematics BA Oceanography BS Physics BS Zoology BS

These polytechnic programs are housed across the three colleges but have the highest concentration of coursework in the College of Natural Resources & Sciences. These figures include 19 undergraduate majors and nine graduate programs. This represents about 2,900 students (~40% of the total student enrollment) and 202 faculty members (111 tenure-line, 91 lecturers) affiliated with these majors.

A few examples of existing excellence in STEM programming include:

In **Applied Science**, the **Fisheries Biology (BS/MS)** programs explore the relationships between fish and the habitats they depend on. Areas of focus in marine, freshwater, and aquaculture allow for careers in conservation, fishery management, water pollution biology, fish health management, and habitat restoration.

In **Applied Science**, the **Forestry & Wildland Resources (BS/MS)** programs leverage the surrounding redwood forests as students learn the biological complexities of the forest and the interactions between the forest and social and economic forces, all through a lens of sustainability. Depending on the concentration students may qualify as a forester including tribal forestry, soil scientist, and soil conservationist for federal employment, and wildland fire management.

In **Engineering**, the **Environmental Resources Engineering (BS)** is one of the largest, oldest, and most respected ABET-accredited undergraduate environmental engineering programs whose mission is to train engineers to solve complex environmental resources problems. The program strives to educate leaders who will sustain, restore, and protect our natural resources and the environment.

In **Science**, the **Oceanography (BS)**. One of two undergraduate programs of its kind in California, grounded in a firm foundation in the study of the physical, chemical, and biological aspects of the ocean through a rigorous combination of academics and practical oceangoing experience on the North Coast. Students engaged in this field of study take courses at the world class [Telonicher Marine Lab](#) and Coral Sea Research Vessel.

In **Technology**, the **Computer Science (BS)** program prepares students for roles across the breadth of computer science, in industry, service, and research and includes a rigorous and balanced core of mathematical, theoretical, and practical knowledge about computation. Students also explore 21st century topics like robotics and bioinformatics.

## ACADEMIC PROGRAMMING BUILD OUT

Phased plans of new academic programming can be viewed in the table below

New Program Recommendations in Engineering, Technology, Applied Science, and Science			
Engineering	Technology	Applied Science	Science
<b>2023</b>			
Engineering Leadership MS Energy Systems Engineering BS Mechanical Engineering BS	Cybersecurity Stackable Certificate Data Science BS Geospatial Analysis BS Information Technology Certificate Software Engineering BS*	Applied Fire Science & Management BS Cannabis Studies BA Sustainability Certificate	Marine Biology BS
<b>By 2026</b>			
	Biotechnology BS Biotechnology Certificate Clinical Lab Science Certificate Computer Science & Information Technology BS* Digital Arts & Media BA	Food Systems Science BS Health Navigator & Narrative Medicine BA Nursing MSN STEM Education* MEd	
<b>By 2029</b>			
Forest Engineering BS Regenerative Engineering Design & Technology BS	Cybersecurity BS*	Agriculture BS Speech Language Pathology MS	

The phased plan for new academic programs demonstrates our commitment to having at least three degree programs in each of the four areas where needed\* by 2023 (planned year of the polytechnic designation) as well as report on a plan to add four additional programs in these areas (if needed) in 2026 and 2029. The goal is to have at least three degree programs in each of the four areas by 2023. These first academic program proposals are complete and have been submitted to the Chancellor's Office.

New polytechnic programming will build on strong existing faculty expertise in natural resources management and environmental sustainability, it will expand services and access related to basic needs such as housing and food security, and it will take advantage of new opportunities such as the fiber optic cable landing and a new data center to boost regional economic development. Many of the new programs are highly interdisciplinary by design, and align with HSU's strategic objectives of being rooted in place, and meeting the needs of our rural communities, with particular emphasis on underserved populations. A large emphasis will be placed on authentic engagement and collaboration with tribal/Indigenous communities to leverage their expertise and community practices.

HSU's location on the North Coast of California, with access to the Pacific Ocean, rivers, redwood forests, and the geologically and ecologically unique natural environment, provide an idyllic setting for natural resources programs. Recently, an increasing emphasis on studying the impacts of climate change and developing scientific and technological solutions to mitigate the challenges is a top priority. In addition to existing labor force needs (for example in construction-related sectors of the economy), we anticipate new opportunities in response to federal initiatives to boost clean energy production.

Other significant economic development opportunities include the Echo subsea cable connecting the U.S. to Singapore that is designed to land in Eureka. The cable landing will be associated with the development of a large new data center and a large broadband hub in the area. These opportunities are backed by large tech companies and will provide unique opportunities to create new programming related to information technology, networking, cybersecurity, and data science. There is a potential to significantly increase industry-academia collaborations and provide new research and internship opportunities. New programs will target workforce development, expand broadband access to rural areas, and increase the educational access and social mobility of traditionally underrepresented students.

The proposed programs center around the following themes: (i) study and management of the natural environment responding to new challenges such as sea level rise and increasingly severe fire seasons (Marine Biology BS, Geospatial Analysis BS, Applied Fire Science & Management BS, Forest Engineering BS); (ii) meeting healthcare needs (Nursing MSN, Clinical Lab Science certificate, and other healthcare related programming under development); (iii) sustainable agriculture and emerging new opportunities (Cannabis Studies BA, Food Systems Science BS); (iv) workforce development in high need areas locally, regionally, and statewide (Data Science BS, Computer Science & Information Technology BS, Software Engineering BS, Mechanical Engineering BS, Cybersecurity BS and stackable certificate, Biotechnology BS and certificate, Regenerative Engineering Design and Technology BS), (v) leverage existing strengths arts, humanities, and social sciences to offer unique programs (Digital Arts & Media BS, STEM Education MEd).

The programs that are recommended include a mix from all four categories of Engineering, Technology, Science, and Applied Science (see table on page 25). The minimum requirements are exceeded for 2023 with the proposed addition of new engineering and technology programs. In addition, we are proposing to add new programs in applied science and science by 2023. There are several programs recommended to be developed after 2023 (between 2026-2029).

### ► Academic Programming Description Plans for 2023

#### ■ Applied Fire Science & Management BS (Applied Science)

Interdisciplinary degree focused on developing practical knowledge and skills to become a fire science or fire management professional with emphasis on providing a better educated workforce for managing wildfires, planning and implementing prescribed fire and other fuels management treatments, and mitigating impacts from high severity wildfires. Given the on-going trends of increased wildfire frequency, size, and severity in many regions of California, there is a growing need and demand to increase workforce capacity across the public and private sector.

#### ■ Cannabis Studies BA (Applied Science)

This degree program is firmly rooted in the interdisciplinary study of the environment and natural resources; a commitment to the development of socially and environmentally responsible cannabis industry practices and policy; and promoting positive health outcomes and social change as laws move away from prohibition. Humboldt County is uniquely situated as an historical epicenter of environmental and social justice issues related to both legalization and ongoing prohibition at the Federal and Global levels. Humboldt County is also a globally renowned epicenter of the US domestication of cannabis cultivation. This program will teach students critical perspectives on both cannabis prohibition and legalization en route to concentrations in Equity and Social Justice and Environmental Stewardship leading to professional outcomes in regulation, policy, consulting, and community advocacy; as well as graduate studies in Planning, Environmental Science, and Law. Our graduates will be to assist in the integration of cannabis into the complex policy landscape, equipped with critical expertise in the history and geography of cannabis criminalization, the contemporary policy landscape, and applied general skills that will also be portable to non-cannabis careers in public and private sectors that relate to Environmental Stewardship and Equity and Social Justice.

- **Cybersecurity Stackable Certificate (Technology)**

Cybersecurity programs are often interdisciplinary programs that incorporate computer information technology and criminal studies courses. The Leadership Studies degree completion program with Cybersecurity Stackable Certificate aligns well with cybersecurity job requirements and pathways for community college transfers or employed adults seeking to upskill and advance in their careers. In addition to relevant leadership coursework, such as; Data Driven Leadership, Project Implementation/Evaluation, and Technology & Leadership, approximately 11-21 units of designated cybersecurity coursework will advance understanding of computer and network security, hacking and risk analysis, computer forensics, intrusion detection and investigation, prevention, and recovery. The program will incorporate apprenticeship and internship opportunities as an opportunity to provide real-world experience, working with HSU ITS and other partners. While many transfer students and adults working in the field may have already achieved some of the industry certifications; Cisco, CompTIA Security+ and A+, and Microsoft, the students in this program develop degree plans that will incorporate preparations for certifications needed to advance in their careers.

- **Data Science BS (Technology)**

The Data Science program will support students to develop and practice skills in synthesizing knowledge and applying contemporary statistics, data analysis, and computational science methods to solve social and environmental problems. The program vision includes a robust set of courses that would also serve students in other majors, creating a nexus for interdisciplinary instruction and knowledge exchange. Students will apply contemporary computer-based and data-oriented analysis that *is in service* of a broader synthesis of knowledge including contributions from humanities, natural sciences, traditional ecological knowledge, and other foundational frameworks for understanding. Efforts will be made to consider data sets related to social justice and environmental sustainability to be in line with HSU's unique vision which emphasizes social and environmental responsibility and action. Degree options include a BS degree, a certificate program to add on to other BS degrees, and an MS degree (potentially in collaboration with 3 other Northern CSU campuses, forming the Northern California Data Science Coalition).

- **Energy Systems Engineering BS (Engineering)**

The Energy Systems degree will prepare students for careers in developing, designing, operating, and analyzing clean energy systems. At the lower division, students will take a core set of engineering courses that are common between this major and the existing major in Environmental Resources Engineering (ERE) major, providing a well-rounded basis in natural sciences, humanities, math, computational science, data analysis, and engineering design. At the upper division, Energy Systems students will engage with project-based and interdisciplinary courses that cover key topics including building energy efficiency, renewable energy, electricity systems, and community energy planning. The program will be Energy focused on energy-related infrastructure, devices, planning, and operations and it will take a systems approach which builds core competencies in systems integration, and has an interdisciplinary approach to considering how energy systems are situated in social, ecological, and economic contexts. The program will be accredited as a "General Engineering" program, incorporating elements from Civil, Environmental, Mechanical, and Electrical engineering disciplines. Energy systems engineering is a growing area of need, and by creating a named "Energy Systems" engineering program we will be at the forefront of a trend towards this new infrastructure system need.

- **Engineering Leadership MS (Engineering)**

The one-year Master of Engineering (MEng) degree in Environmental Resources Engineering (ERE) is designed to develop future engineering leaders. The degree addresses both state and national workforce needs and is tailored to those who wish to pursue resource management positions that require strong technological and management skills with a particular focus on interfacing and working with Indigenous and traditionally underserved communities. The program includes an engineering design concentration, an engineering professional development component, coursework that explicitly address environmental justice, Indigenous sovereignty, tribal history and law, environmental sustainability, natural resource

economics, and a capstone project. The MEng program is aimed towards students who have earned an undergraduate engineering degree in a related field such as environmental, civil, or mechanical engineering or students who have completed the necessary prerequisite courses prior to enrollment to be successful in graduate level engineering design electives. Possible areas of concentration include: Clean and Renewable Energy Systems, Aquatic Restoration, and Watershed Protection and Management. The program would include a 6-unit capstone project experience spread out over two semesters and/or possibly the summer. The capstone project would be a team-based project with a community partner. Potential partnerships for projects would focus on traditionally underserved communities such as our local tribes.

- **Geospatial Analysis BS (Technology)**

The Geospatial Analysis bachelor's degree program will prepare students for a wide variety of positions including geospatial analysts, specialists, developers, and managers. Graduates may also choose to apply geospatial technology to specific disciplines including natural resource management, rural and urban planning, wildlife, fisheries, geology, ecology, forestry, human geography, criminology, sociology, anthropology, engineering, and business. Faculty and classes are already in place at HSU and include Introductory to Advanced Material on Geographic Information Systems, Remote Sensing, Cartography, and Data Collection. The classes use the Humboldt area as a location for spatial analysis projects while including other areas to give students an appreciation for the diverse communities around us and the issues they are facing. The content of classes is regularly updated to include the latest technology including Unmanned Aerial Vehicles (UAVs), Real Time Kinematic (RTK) surveying, and interactive visualizations. Students will be able to take advantage of our existing network of regional and national organizations including the College of the Redwoods, Humboldt County, the City of Arcata, local tribes, the State of California, and numerous federal agencies. We anticipate extending this network regionally and globally through faculty and alumni collaborations.

- **Information Technology Certificates (Technology)**

HSU IT Certificates programs offer a range of non-credit learning experiences that connect student learning in cohorts, projects that culminate in a portfolio team-based project, and learners accumulating various industry certificates. Many of the emerging learning resources and industry certifications are free or very affordable, however, the design relies on asynchronous and self-motivated learner paths, lacking a cohort and coherent team and project based learning approach, and the completion rate is extremely low. An affordable and scalable strategy combines existing industry resources and with a flexible curated learning program designed to meet the plethora of IT job requirements that emphasize IT skills and experience with industry certificates in at least three major platforms; AWS Learn, Google IT Certificates, and Facebook for Business and Developers. This non-credit Certificate program is ideal for non-traditional learners, community college transfers, or employed adults seeking to upskill and advance in their careers. Various opportunities for degree completion at HSU will be promoted when appropriate.

- **Marine Biology BS (Science)**

Marine Biology includes coursework about marine organisms, from bacteria to whales. The inclusion of a wide range of organismal courses sets HSU apart as uniquely prepared for careers in marine biology. HSU students gain research experience every semester at the Telonicher Marine Lab, an easy half-hour drive from the HSU campus. In addition, HSU has a 91' vessel, the R/V Coral Sea, located at the Woodley Island Marina in Eureka, which is one of the largest ocean-going vessels dedicated to undergraduate education in the entire U.S. and regularly used in our courses in Biology, Oceanography, Fisheries, Chemistry, Geology, and Wildlife.

- **Mechanical Engineering BS (Engineering)**

Mechanical Engineering is an evolving discipline that adapts to the current needs of society. Mechanical engineers design, develop, build, and test mechanical and thermal systems, sensors, and devices. It is one of the most versatile engineering degrees and can encompass a focus across a wide range of topics. Specific topics that align with the values and vision of an HSU polytechnic include

(but are not limited to): environmental sensor design, air pollution control, sustainable power systems design, mechanical and electro-mechanical machine design, fluid handling systems, HVAC and building systems design, and food processing. The ABET accreditation board states that mechanical engineering programs must cover both thermal and mechanical systems with an in-depth coverage of either thermal or mechanical systems. Due to the variety of fields relevant to this profession, the undergraduate program would cover areas in dynamics, materials, thermal/fluids, vibrations, controls, computer aided engineering, design, and manufacturing. Exciting areas of advanced coursework and research could include advanced energy systems, sustainable energy systems, biosensors, computational modeling, and sustainable manufacturing.

- **Software Engineering BS (Engineering/Technology)**

Software Engineering is a field that applies engineering concepts to software development. It encompasses the development, operation, and maintenance of programs. The curriculum of Software Engineering programs includes computing fundamentals, software design and construction, requirements analysis, security, verification, and validation; software engineering processes and tools appropriate for the development of complex software systems; and discrete mathematics, probability, and statistics, with applications appropriate to software engineering and is specified to meet ABET accreditation requirements. A bachelor's degree in software engineering opens doors to highly paid careers in video game development, design of web applications, network management and security. The median annual salary for software engineers is over \$100,000. Workforce demand in the field is very high, with large projected growth over the next decade.

- **Sustainability Certificate (Applied Science)**

This Sustainability Certificate will be a stackable certificate designed in collaboration with Lonny Grafman in Environmental Resources Engineering and other faculty, to incorporate the business and design of renewable energy and resources into innovation and social entrepreneurship. This interdisciplinary certificate will be designed to incorporate existing courses, and introduce new courses that are excellent for recruitment, and provide opportunities to connect real-world applications and solutions that showcase innovation in the state and beyond. The Sustainability Certificate will foster opportunities for community engaged projects requiring interdisciplinary collaboration across STEM, the School of Business, the College of Arts, Humanities & Social Sciences, and others, building a strong brand of community innovations. Initial building of this program will focus on solar energy systems and entrepreneurship, and expand to other energy, community resources, and waste systems. What makes this program so powerful and unique is the community project based approach, and the emphasis on community innovation and entrepreneurship. Key learning outcomes will include an ability to engage the community in identifying challenges and opportunities, action research, business plan and project management, engineering with energy systems, and community resources. Students will understand environmental and energy systems, and the interconnectedness across social, economic, and ecological realities and change management practices.

- ▶ **Academic Programming Description Plans for 2026**

- **Biotechnology BS (Technology)**

The HSU Biotechnology Multidisciplinary degree prepares students for careers that address grand challenges using the approaches, methodologies, and technologies that allow us to understand the [Rules of Life](#) to stimulate innovation and discovery. The major requirements are composed of existing coursework in Biochemistry, Cellular and Molecular Biology, Microbiology and Computer Science with the addition of GE courses that help students gain an appreciation of the civic and cultural impacts of their discoveries and the importance of conducting their work in a culturally responsive manner.

- **Biotechnology Certificate (Technology)**

The Biotechnology Certificate prepares students interested in working in biotechnology or medical technology fields, or students in careers seeking to upskill. This interdisciplinary program will focus on laboratory tasks common in biotechnology and medical technology fields, and align with area

providers. As possible, area medical offices will provide opportunities for internship experiences that support this program. Learning outcomes will include a comprehensive learning of laboratory tasks common in medical and biotechnology areas, and Biology, Chemistry, and Nursing courses that are required foundations to professional practice such as Cell Culture Processing, Protein Chemistry, and Molecular Cell Biology and new courses such as Foundations of Biotechnology and Biotechnology Laboratory Techniques. The Biotechnology Certificate program will provide students with skill training required for entry level employment as technicians and emphasizes hands-on practical lab experience. Students will learn safety procedures and use of laboratory equipment, maintaining sterilized equipment and environment, data gathering and processing, performing cell cultures, preparing solutions, protein purification, sterile techniques, and other processes. Many courses can count for both the Biotechnology Certificate and Clinical Lab Science Certificate.

- **Clinical Lab Science Certificate**

The Clinical Lab Science Certificate prepares students interested in working in Clinical Lab Science fields, or students in careers seeking to upskill. This interdisciplinary program will focus on laboratory tasks common in the lab science and medical technology fields, and align with area providers. As possible, area medical offices and STEM labs will provide opportunities for internship experiences that support this program. Learning outcomes will include a comprehensive learning of laboratory tasks common in medical and science lab areas, and Biology, Chemistry, and Nursing courses that are required foundations to professional practice such as Cell Culture Processing, Protein Chemistry, Molecular Cell Biology and new courses such as Foundations of Clinical Lab Science and Clinical Lab Science Techniques. The Clinical Lab Science Certificate program will provide students with skill training required for entry level employment as technicians and emphasizes hands-on practical lab experience. Many courses can count for both the Biotechnology Certificate and Clinical Lab Science Certificate.

- **Computer Science & Information Technology BS (Technology)**

Computer and Information Technology is a fast-growing field with robust career opportunities for students with bachelor's degrees. Information Technology professionals provide critical services ensuring system development, maintenance, and security. The aim of this program is to provide broad applied training to students entering the program from various points: as first-year first-time students, transfer students, or working professionals seeking additional qualifications. In addition to a core curriculum, the program can also offer elective courses with a pathway to IT industry certifications preferred by potential employers. Graduates of the program could work in careers such as application development, development operations (DevOps), IT management and consulting, and network administration.

- **Digital Arts & Media BA (Technology)**

Frequent technological innovations in the arts require students to have dexterity in a wide variety of artistic and media areas. The Digital Arts & Media major provides hands-on, skill building experience in digital graphics, photography, film, video, audio and music recording, augmented reality, virtual reality, and emerging technologies. Creative digital technologies are integrated into nearly every sector of the workforce. The Digital Arts & Media major prepares students for employment in entertainment, business, journalism, music, and art industries. This Bachelor of Arts degree has a robust four-year plan with introductory courses and electives for students to choose from in Art, Film, Music, and Journalism that will also be complemented by coursework in the Humanities and Social Sciences. The Digital Arts & Media major is also designed to meet the needs of transfer students from related fields to graduate in two years and develop a portfolio. Service learning, interdisciplinary partnerships, and capstone projects provide professional opportunities for students.

- **Food Systems Science BS (Applied Science)**

The Food Systems Science program will incorporate academic content from a number of disciplines, including Rangeland Resources Science, Engineering, Anthropology, Communication, and more. The program will provide hands-on experience related to food production, processing and distribution, and consumption. This new major takes advantage of HSU's unique campus and environment,



with its emphasis on sustainability, its location situated near the ocean, rivers, forests, and fertile agricultural land, and its unique resources: California's longest operating farmer's market, the only hospital in the state with an organic garden, the state's only campus fish hatchery (with a recirculating aquaculture system), seaweed farming projects in the Humboldt Bay, and the R/V Coral Sea. Students founded the Campus Center for Appropriate Technology (CCAT), a live-in laboratory for student learning about sustainability that includes an on-campus garden, making it particularly well suited for the incorporation of a formal training pathway for sustainable food systems. This project will link all of these opportunities and resources together to provide holistic training in food systems and sustainability. The major will increase economic vitality and sustainability of regional food systems. The new program and curriculum reflect the need for growth and innovation in the rural, isolated, high-poverty region where HSU is located (~21% of residents live below the poverty line).

- **Health Navigator & Narrative Medicine BA (Applied Science)**

This interdisciplinary major or minor option serves as an introduction to the fields of arts in health, narrative medicine, health humanities, and medical humanities with an emphasis on health justice (See [World Health Organization Health Evidence Network Synthesis Report: Evidence on the Role of Arts in Improving Health and Well-Being](#)). The major also prepares students for careers that emphasize the connections between culture and health: including community health programs, prison arts, hospital artist-in-residence programs, teaching artist programs, and creative arts therapies. Students in the program can select specialization areas that lead to career pathways in health translation, health navigation, health design, public health, and health justice advocacy. Graduates of this program are equipped to facilitate community-based public health learning opportunities with a skillset in arts and communication, as they also are able to support health organizations in building awareness campaigns. The curriculum emphasizes narrative competence and cultural humility, so that patients' storied lives are better understood, and responded to, in the medical office. Moreover, the program equips California health practitioners with health justice frameworks that should guide their practice, supporting community health integration and culturally-relevant health models.

- **Nursing MSN (Applied Science)**

The MSN program will be designed to prepare registered nurses with baccalaureate degrees for advanced roles in community health, nursing education, and clinical settings. The curriculum would focus on the advanced development of professional nursing practice within a rural community, which would include preparation for leadership, quality improvement, and advocacy roles. At the conclusion of the program, MSN students create a quality improvement plan (thesis, project, or comprehensive exam) to address a practice disparity. Students will utilize advanced knowledge in nursing practice and nursing related field theories, and advanced knowledge to evaluate and integrate research to create a methodical quality improvement plan to improve nursing practice.

- **STEM Education MEd (Applied Science)**

The M.Ed. in STEM Education Program is designed for credentialed K-12 educators and those with STEM undergraduate degrees who are seeking opportunities in formal and informal STEM educational careers. This program will provide students an opportunity to expand their knowledge of STEM content and pedagogy which will assist them in developing hands-on, inquiry based, interdisciplinary STEM activities. In addition to strengthening their knowledge base across the STEM fields as well as in their chosen emphasis, the M.Ed. in STEM Education program will enhance the teaching dispositions of the participants which will provide them opportunities to deepen their understanding of learners from diverse backgrounds and to explore issues of equity in the STEM fields. A need exists for educators to expand their knowledge of research and pedagogy in STEM fields; therefore, program participants will be expected to engage in action research in the context of their own classrooms (or a classroom of their choosing) in order to inform instruction, and to share the knowledge gained in a professional community of teachers. The ultimate goal of the program is to engage teachers in advanced courses that will strengthen their STEM content and broaden their pedagogical practices.

## ► Academic Programming Description Plans for 2029

### ■ Agriculture BS (Applied Science)

A generalist bachelor's degree in agriculture will be designed in partnership with the College of Redwoods as a completion program (similar to an RN to BSN pathway in nursing). Areas of emphasis for the agriculture bachelor's degree will focus on areas unique and important to the North Coast including water, waste management, and desalination.

### ■ Cybersecurity BS (Technology)

Cybersecurity is one of the fastest growing areas of computer science today. It is a very broad field that encompasses areas from network security to digital forensics and incident response to governance, risk and compliance. As the world becomes increasingly digitized, much of our information is stored on computers, phones, and in the cloud. Cybersecurity plays a crucial role already, but its importance will continue to increase as the world becomes more technology-driven. The HSU cybersecurity program will focus on application security, data loss security as well as network security. This focus will build on existing programming (the current Computer Science BS program and the proposed Computer Information Technology program). A large number of careers will be available to graduates of the program: security analyst, security consultant, security administrator, data protection officer, and more. This programming will elevate HSU's profile and contribute to the workforce development of California.

### ■ Forest Engineering BS (Engineering)

A Bachelor of Science in forest engineering provides students with the ability to apply the principles of engineering and design to various forest management problems. Forest engineers are primarily involved in the design of logging and transportation systems to support sustainable forestry production and workforce protection. The design of logging systems using engineering principles will enhance worker safety by predicting the stress on various components during harvesting operations. Additionally, applying forest engineering design principles protects and enhances ecosystem services such as soil, water, and wildlife. One element of the program is a focus on terra-mechanics, which is the interaction between machine and soil, with the goal of reducing the compaction, rutting, and soil disturbance that harm soil and water resources. The design of drainage structures to allow for the unobstructed flow of water and wildlife through road systems can minimize impacts on aquatic environments by reducing sedimentation and blockage of stream channels. These design principles additionally support active restoration projects, especially post-fire restoration that is becoming a large part of the forestry sector in California.

### ■ Regenerative Engineering Design & Technology BS (Engineering/Technology)

The Regenerative Engineering Systems Design and Technology (RESDT) program is a four-year undergraduate program accredited as an Engineering Technology program. Regenerative design is a systems approach to design with the goal of creating systems that are resilient and equitable. Regenerative considers both human and ecological systems to create, design, and build spaces that go beyond the focus of sustainable development on human needs and incorporates design for resiliency for the community and the environment. Program learning objectives combine concepts of regenerative design with the traditional concepts of construction and manufacturing engineering including fundamentals of design, project management, and operations and maintenance processes. The coursework fills the widening gap between the professional designer and the construction trades and will prepare graduates to become licensed professional engineers. Graduates from this program work with owners, architects, and public agencies to transform conceptual ideas into functioning systems. The program would include required math, science, and engineering courses that are prescribed for ABET Engineering Technology degrees such as calculus, physics, materials science, and soil mechanics as well as courses that provide training in regenerative theories and practices such as regenerative processes and sustainable community development such as those included in Cal Poly Pomona's regenerative studies degree.

- **Speech Language Pathology MS (Applied Science)**

The master's degree in speech-language pathology will be designed in partnership with the local school districts and health systems to prepare students for practice as a Speech Language Pathologist (SLP). The curriculum will provide academic and clinical preparation for practice in areas of communication, swallowing across the lifespan, infuse principles of traditional and cultural knowledge, and offer students training in integrative care.

## **SELECTED EXAMPLES OF KEY EXTERNAL PARTNERSHIPS FOR THE SUCCESS OF ACADEMIC PROGRAMS**

The HSU Fisheries Biology Program is bolstered by strong agency partnerships that enhance their teaching and research missions, highlighted by the on-campus California Cooperative Fish Research Unit and HSU-NMFS Cooperative Fisheries Oceanography Research Team. The Fisheries Biology Program and Coop Unit also has an extensive network of connections with federal and state agencies (CA Dept. of Fish and Wildlife, U.S. Forest Service, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Redwood National Park, and the U.S. Bureau of Reclamation and Land Management) that facilitate grant and contract work that is relevant to fisheries management. HSU Fisheries Biology faculty have had a long history of collaborative fisheries and water quality research with Hupa and Yurok Tribes.

Undergraduate students in the Environmental Science & Management program with a concentration in ecological restoration all conduct a senior capstone project in which they work with local community partners doing restoration work in the Humboldt County area. Capstone projects include project design, post-project monitoring, and restoration-related research. Community partners include local tribes, agencies, municipalities, non-profit organizations, and private consulting firms.

In partnership with the County of Humboldt's office of Economic Development, and in response to SB1294, the California Center for Rural Policy (CCRP) at Humboldt State University researched, studied, and prepared a report on the history and contemporary circumstances concerning cannabis equity in Humboldt County. The report, which was required in order to receive state funding, led to Humboldt County receiving extensive funding to assure that underrepresented people who bore the brunt of the consequences of prohibition are able to start businesses and succeed in the new legalized workforce. CCRP has taken its expertise in developing equity assessments and local equity program design to other rural counties; and in the past year has been recruited to help jurisdictions in the rest of the state, including Mendocino County, Lake County, and Nevada County. This year, CCRP has been approached by more urban locations, including Santa Cruz and San Diego County, who look to HSU as the statewide equity experts.

HSU plays a vital role in finding solutions to the healthcare crisis in our region. One promising collaborative effort is known as the "Slingshot Initiative: Accelerating Income Mobility Through Regional Collaboration." Slingshot's goal is to create a seamless health education pipeline from elementary through postsecondary and beyond that will increase the quality of our healthcare and human services system, while growing the size of the workforce and strengthening the income and earning potential of our healthcare workforce. To accomplish this the community created two strategies: Work with K-14 education to increase the likelihood of local students pursuing health careers and work with College of the Redwoods and Humboldt State University to increase health related career education and advancement for local community members.

The Blue Lake Rancheria (BLR) rural region sits at the junction of three tectonic plates, and is subject to heavy rainstorms, forest fires, and frequent power outages. The Rancheria houses tribal government offices, EV charging, a convenience store and gas station, a hotel and casino, and energy and water systems — including a low-carbon microgrid. Together, these facilities serve as an American Red Cross emergency evacuation site. With HSU's Schatz Center as the prime contractor and lead technology integrator, the microgrid integrates a solar array, battery storage, and control systems to allow the Rancheria campus to operate in tandem with or islanded from the main utility grid. It generates renewable energy and provides approximately \$150,000 in annual electricity savings. The BLR microgrid was funded by a \$5 million grant from the California Energy Commission through their EPIC program.

The Arcata Marsh & Wildlife Sanctuary is home to the City of Arcata's innovative wastewater treatment facility, which was conceived and brought into existence with leadership from Humboldt State University, and in particular, Environmental Engineering Professor Robert Gearheart. Dr. Gearheart dedicated his 40-year career to

understanding biogeochemical cycles of wetland systems and how those processes can be leveraged to transform waste to a resource. He played a key role in interfacing between state and regional politicians, regulators, and wastewater professionals to pave the way for degraded wetlands to be restored and used as a natural treatment system. He inspired hundreds of students, and many have conducted research or carried out special projects at the marsh over the years. The effort is internationally known and Dr. Gearheart hosts dozens of scientific visitors each year who come to Arcata to learn more about it.

Since 2006, NOAA's Southwest Fisheries Science Center has stationed Dr. Eric Bjorkstedt at HSU, where he actively serves as adjunct in the Department of Fisheries Biology. His research makes extensive use of HSU's R/V Coral Sea and the Marine Lab in Trinidad to study effects of climate variability and change on marine ecosystems off Northern California. He teaches a course in Fisheries Oceanography every other year, serves as Chair or Member on graduate students' committees, and supports undergraduate education through guest lectures and research opportunities, and is an active member of the HSU Fisheries faculty.

## SPECIALTY ACCREDITATION FOR EXISTING PROGRAMS

Humboldt State University has several specialty accredited programs across the institution reflected in the table below. The \* reflects specialty accredited programs in the four key polytechnic areas of science, applied science, engineering, and technology.

Accreditation for Existing Programs			
Program	First Granted	Renewal Date	Accrediting Body
<b>Art BA</b>	1978	2024-25	National Association of Schools of Art and Design (NASAD)
<b>Business Administration, BS, MBA</b>	2015	2022	International Accreditation Council for Business Education (IACBE)
<b>Child Development/Laboratory</b>	1989	2022	National Association for the Education of Young Children (NAEYC)
<b>Administrative Services Credential</b>	2002	2023	California Commission on Teacher Credentialing (CCTC)
<b>Multiple Subjects Credential</b>	2002	2023	California Commission on Teacher Credentialing (CCTC)
<b>Single Subjects Credential</b>	2002	2023	California Commission on Teacher Credentialing (CCTC)
<b>Special Education Credential, Mild/Moderate</b>	2002	2023	California Commission on Teacher Credentialing (CCTC)
<b>Special Education Credential, Moderate/Severe</b>	not specified	2023	California Commission on Teacher Credentialing (CCTC)
<b>Adapted Physical Education Credential</b>	2002	2023	California Commission on Teacher Credentialing (CCTC)
<b>Environmental Resources Engineering BS*</b>	1981	2023	Accreditation Board for Engineering and Technology (ABET)
<b>Fine Art BFA</b>	2018	2024-25	National Association of Schools of Art and Design (NASAD)
<b>Forestry BS*</b>	1979	2025-26	<a href="#">Society of American Foresters</a>
<b>Music BA</b>	1979	2021	National Association of Schools of Music (NASM)
<b>Nursing BSN*</b>	Forthcoming	TBD	Commission on Collegiate Nursing Education (CCNE)
<b>Social Work BA, MSW</b>	2004	2027	Council on Social Work Education (CSWE)

## SPECIALTY ACCREDITATION FOR NEW PROGRAMS

Humboldt State University's phased polytechnic academic programming plan reflects several new degree offerings including some that will require specialty accreditation. The table below reflects the forthcoming degree programs and the associated specialty accreditation plans.

Accreditation for New Programs		
Program	Field	Accrediting Body
<b>Agriculture BS</b>	Applied Science	TBD
<b>Applied Fire Science &amp; Management BS</b>	Applied Science	None
<b>Biotechnology BS</b>	Technology	TBD
<b>Cannabis Studies BA</b>	Applied Science	None
<b>Computer Science &amp; Information Technology BS</b>	Technology	TBD
<b>Cybersecurity BS</b>	Technology	None
<b>Data Science BS</b>	Technology	None
<b>Digital Arts &amp; Media BA</b>	Technology	None
<b>Engineering Leadership MS</b>	Engineering	Accreditation Board for Engineering and Technology (ABET)
<b>Energy Systems Engineering BS</b>	Engineering	Accreditation Board for Engineering and Technology (ABET)
<b>Food Systems Science BS</b>	Applied Science	TBD
<b>Forest Engineering BS</b>	Engineering	Accreditation Board for Engineering and Technology (ABET)
<b>Geospatial Analysis BS</b>	Technology	TBD
<b>Health Navigator &amp; Narrative Medicine BA</b>	Applied Science	TBD
<b>Marine Biology BS</b>	Science	None
<b>Mechanical Engineering BS</b>	Engineering	Accreditation Board for Engineering and Technology (ABET)
<b>Nursing MSN</b>	Applied Science	Commission on Collegiate Nursing Education (CCNE)
<b>Regenerative Engineering Design &amp; Technology BS</b>	Engineering	TBD
<b>Software Engineering BS</b>	Engineering/Tech	Accreditation Board for Engineering and Technology (ABET)
<b>Speech Language Pathology MS</b>	Applied Science	Council on Academic Accreditation in Audiology and Speech (CAA-OSHA)
<b>STEM Education MEd</b>	Applied Science	California Commission on Teacher Credentialing (CCTC)

## APPLICATIONS AND ENROLLMENT AT OTHER CSU POLYTECHNICS

One of the justifications for creating a third polytechnic within the CSU system is the large number of qualified applicants currently turned away from the STEM programs at the existing polytechnics. Here, we quantify the shortfall between the aspirations of potential students and the capacity constraints of the two universities for programs identified as engineering or technology. The data presented for Cal Poly Pomona is from 2017, the most recent data publicly available. The data presented for Cal Poly San Luis Obispo (SLO) is from 2020. Although the data from the two existing Cal Poly programs is not from the same year, the trends at both institutions have been consistent over the past five years and provide valuable information on enrollment trends.

### ► Impaction

The self-study steering group and associated working groups examined impaction data across the CSU system. A program is declared as “impacted” within the CSU system when there are more applicants from qualified applicants than there are spaces available. When a program is impacted admission criteria are applied that are above the regular admissions criteria for the university, meaning meeting the minimum CSU requirements does not guarantee admission to an impacted program. Impaction criteria vary across the different CSU campuses and within a campus across programs. All CSU campuses (except Dominguez Hills and East Bay) have at least one impacted program and seven campuses are listed as impacted for all programs including Fresno, Fullerton, Long Beach, Los Angeles, San Diego, San Jose, and San Luis Obispo. Impaction criteria can include increased requirements for high school or community college GPA, exam scores, and/or prerequisite coursework. Often preferential consideration is given for students served by the local area of the institution.

Cal Poly SLO is impacted at the campus-level which includes all undergraduate programs. SLO does give preference in the competitive admissions process to local students who graduate from a high school in San Luis Obispo, northern Santa Barbara, or southern Monterey County. Cal Poly Pomona is impacted for the following programs: Animal Science, Animal Health Science, a subset of Engineering (aerospace, chemical, civil, computer, electrical, industrial, mechanical), Architecture, Biology, Biotechnology, Environmental Biology, Chemistry, Computer Science, Kinesiology, and Physics.

All Nursing programs are impacted at the eight CSU campuses that have a program (Bakersfield, Channel Islands, Chico, East Bay, Humboldt, Sacramento, San Bernardino, San Francisco). Other polytechnic programs in high demand based on impaction and enrollment data at CSUs other than the polytechnics include Biological Sciences, Computer Science, Kinesiology, and a number of Engineering programs (see below for more detail on Engineering).

Based on personal communication with CSU Deans of Science and Engineering the highest demand programs in their colleges are Computer Science, Computer Engineering, Hardware Engineering, Mechanical Engineering, and Hardware Engineering.

The following is selected impaction data at Cal Poly Pomona and Cal Poly SLO that informed build out of the academic programming at Humboldt State University in the areas of engineering, health, and technology.

### Summary of Applications and Enrollment at Cal Poly SLO and Pomona for Engineering & Technology Programs

	SLO	Pomona	SLO & Pomona
<b>Total Eng Applicants</b>	12,770	9,986	22,756
<b>Total Eng Enrolled</b>	1,324	1,208	2,532
<b>% of App Enrolled</b>	10	12	11
<b>Total Tech Applicants</b>	<b>8,153</b>	<b>3,654</b>	<b>11,807</b>
<b>Total Tech Enrolled</b>	409	550	959
<b>% of App Enrolled</b>	5	15	8

- **Engineering**

The mechanical engineering program is indicated as both a high demand major for students in California and as a high workforce need. There are multiple programs at other CSUs that are impacted including both Cal Poly programs that turn away thousands of students in spite of hosting mechanical engineering programs that are among the largest in the university (mechanical engineering is the largest program at both Pomona and SLO). A small mechanical engineering program could support 500 students; both existing Cal Poly's serve approximately 1,200-1,300 students in their programs. The software engineering program is the same as mechanical engineering in terms of having both high student demand, impacted programs at other CSUs, and a high workforce need.

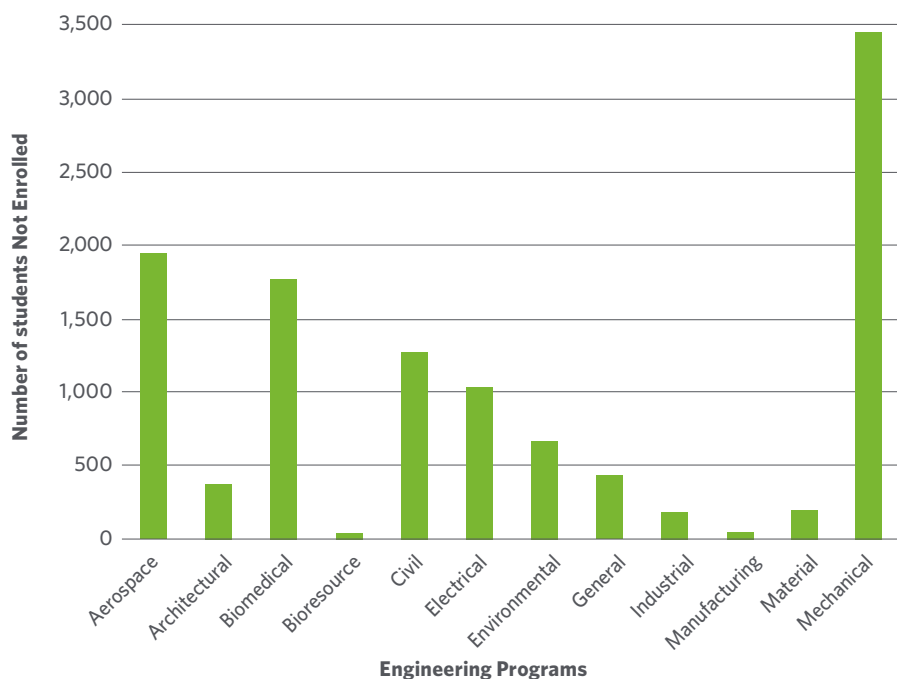
At Cal Poly SLO, of the 2020 applicants, only 10% were able to enroll in the major of their choice. The programs with the highest rejection rates were in aerospace engineering, biomedical engineering, mechanical engineering, and environmental engineering. Mechanical engineering, the largest engineering program at Cal Poly SLO with nearly 1,200 undergraduates, had nearly 3,500 students who applied but were not enrolled in the major. Only one program (Bioresource and Agricultural Engineering) enrolled more than 30% of the applicants.

The following table represents 12 undergraduate engineering programs at Cal Poly San Luis Obispo (2020).

### Applications and Enrollment for Engineering Programs at SLO in 2020

Major	Total App	Newly Enrolled	% of Enrolled	Not at SLO
<b>Aerospace</b>	2,052	110	5%	1,942
<b>Architectural</b>	458	81	18%	377
<b>Biomedical</b>	1,881	110	6%	1,771
<b>BioResource &amp; Ag</b>	101	56	55%	45
<b>Civil</b>	1,468	198	13%	1,270
<b>Electrical</b>	1,286	237	18%	1,049
<b>Environmental</b>	721	56	8%	665
<b>General</b>	505	63	12%	442
<b>Industrial</b>	245	65	27%	180
<b>Manufacturing</b>	81	24	30%	57
<b>Materials</b>	266	69	26%	197
<b>Mechanical</b>	3,706	255	7%	3,451
<b>TOTALS</b>	<b>12,770</b>	<b>1,324</b>	<b>10%</b>	<b>11,446</b>

**Number of applicants not enrolling in desired engineering majors at SLO in 2020.**



At Cal Poly Pomona, there are nine undergraduate and four graduate programs in engineering. The data presented in the table below (2017) is the most recently publicly available data.

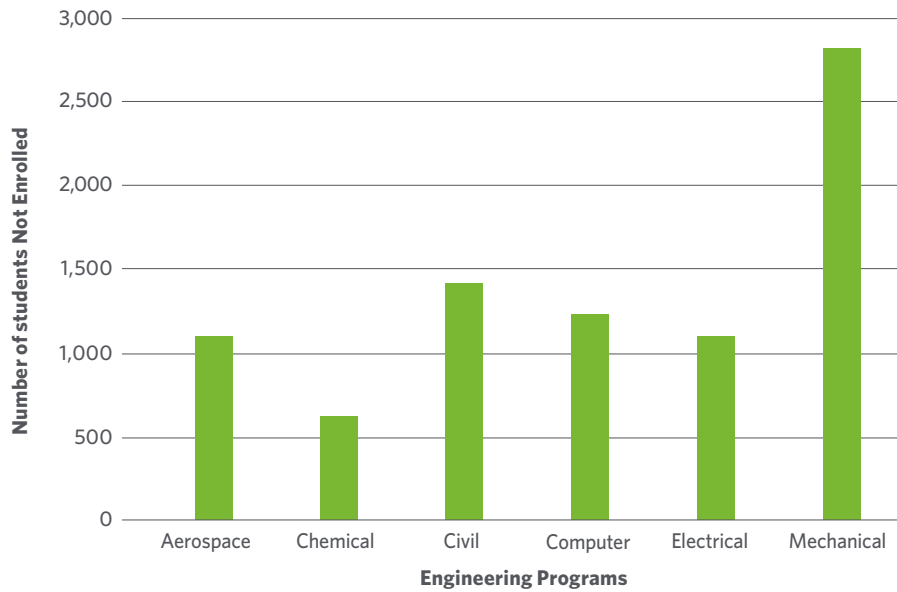
### Applications and Enrollment for Undergraduate Engineering Programs at Pomona in 2017

Major	Total App	Admits	% Admitted	# Not Admitted	Newly Enrolled	Not at Pomona
<b>Aerospace</b>	1,264	572	45	692	159	1,105
<b>Chemical</b>	752	508	68	244	118	634
<b>Civil</b>	1,632	737	45	895	211	1,421
<b>Computer</b>	1,338	425	32	913	97	1,241
<b>Electrical</b>	1,251	520	42	731	137	1,114
<b>Eng grad</b>	39	19	49	20	13	26
<b>Industrial</b>	230	178	77	52	66	164
<b>Manufacture</b>	109	90	83	19	57	52
<b>Mechanical</b>	3,140	1,058	34	2,082	312	2,828
<b>TOTALS</b>	<b>9,986</b>	<b>4,237</b>	<b>42</b>	<b>5,749</b>	<b>1,208</b>	<b>8,778</b>

In 2017 there were 9,986 applicants for these 13 programs but only 1,208 (12%) were enrolled at the start of the Fall semester. The undergraduate programs with the lowest enrollment rates were computer engineering (93%), mechanical engineering (90%), electrical engineering (89%), aerospace engineering (87%), and civil engineering (87%). No program enrolled more than 53% of applicants.



**Number of applicants not enrolling in desired engineering majors at Pomona.**



The engineering programs of the two universities enroll on average only 11% of applicants. (Harvard enrolls 5%.) Given the great imbalance between supply and demand, these are elite programs. The most problematic of them are mechanical engineering, aerospace engineering, and civil engineering, but ultimately all of them have far too little capacity granted the demand.

▪ **Health**

All nursing programs in the CSU and many across the nation are impacted. Additionally, nursing programs are hard to stand up because of the nursing educator shortage—it is difficult to attract qualified nursing faculty due to several factors including a shortage of nurses with advanced degrees, competitive salaries for nursing professionals in the field, and challenging schedules making availability to part-time teach difficult.

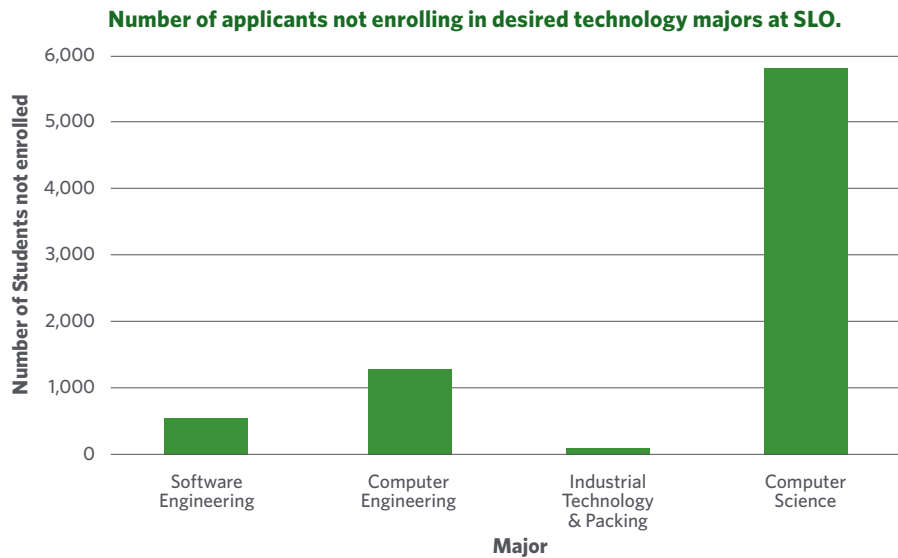
▪ **Technology**

There is particularly high current demand for software engineering, as reflected in impacted programs at the other two CSU polytechnics and by the very large number of job opportunities. Cybersecurity is an emerging area with an even higher growth potential. Much of the projected growth in positions require training in cybersecurity, and there is no current BS degree in cybersecurity in the CSU system, although various certificate programs, coursework, and degree options exist. Strategically, focusing on cybersecurity first is attractive but this option is constrained by current program capacity.

Technology programs are not as easily identifiable as engineering programs as they are found in multiple colleges. These data may be missing programs that could be considered as technology. The numbers reported here are for undergraduate majors only. There are four identified technology programs at Cal Poly San Luis Obispo. Only 5% of the applicants were enrolled in these four programs combined. By far the most restrictive program was computer science, which enrolled 3% of the applicants, providing ~200 seats for 6,000 applicants.

## Applications and Enrollment for Technology Programs at SLO in 2020

Major	Total App	Newly Enrolled	% of Enrolled	Not at SLO
<b>Software Engineering</b>	575	38	6.6	537
<b>Computer Engineering</b>	1414	126	8.9	1,288
<b>Industrial Technology &amp; Packaging</b>	148	46	31.1	102
<b>Computer Science</b>	6016	199	3.3	5,817
<b>TOTAL</b>	<b>8153</b>	<b>409</b>	<b>5.0</b>	<b>7,744</b>

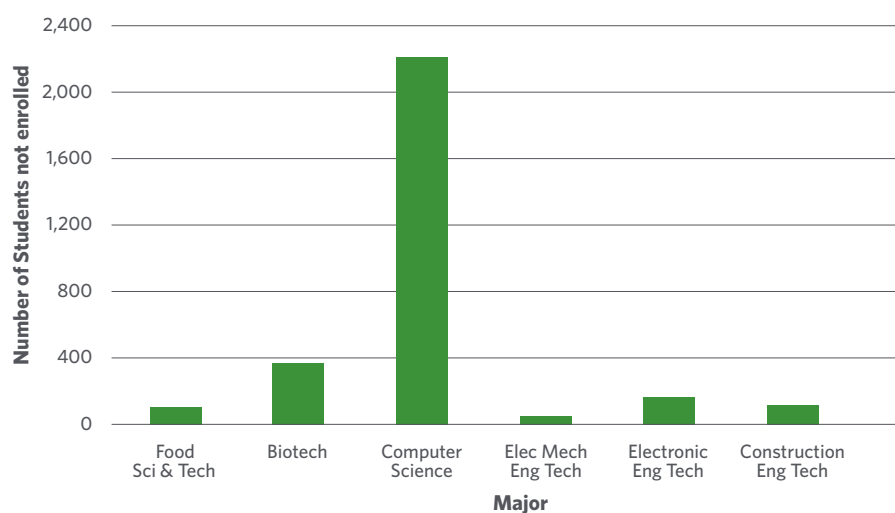


At Cal Poly Pomona there were six identified undergraduate technology programs in 2017. Of the 3,654 applicants, 550 were enrolled (15%). Technology degrees receive about half the number of applications of the engineering programs, but enroll a smaller percentage of applicants than the two polytechnics combined. In particular, computer science is the most difficult technology major to enroll in at either university. Nonetheless, several of the other majors are almost as exclusive. Of the 11 technology programs at the two universities, five had enrollment rates <15% of the applicant pool.

## Applications and Enrollment for Technology Programs at Pomona in 2017

Major	Total App	Admits	% Admitted	Newly Enrolled	Not at Pomona	% Enrolled
<b>Food science &amp; Tech</b>	135	118	87	39	96	29
<b>Biotech</b>	426	201	47	57	369	13
<b>Computer science</b>	2,455	704	29	249	2206	10
<b>Electromechanical Eng Tech</b>	91	82	90	43	48	47
<b>Electronic system Eng Tech</b>	238	188	79	76	162	32
<b>Construction Eng Tech</b>	187	141	75	64	123	34
<b>TOTAL</b>	<b>3,654</b>	<b>1,482</b>	<b>64</b>	<b>550</b>	<b>3104</b>	<b>15</b>

Number of applicants not enrolling in desired technology majors at Pomona.



## WORKFORCE NEEDS INFORMING PROPOSED PROGRAMMING

### *National, California, and Local Workforce Needs*

In interpreting the available data, we kept several considerations in mind. First, approximately 91% of our students stem from California—nearly a third (28%) come from the Los Angeles region and approximately 40% from the greater Bay Area and Northern California. Given geographic demographics, HSU must balance serving the needs of the local community with statewide needs. Students' regions of origin should also drive efforts to build external partnerships, so students can identify opportunities to participate in internships during the summer in their home communities. Workforce data shows current trends and projects growth based on real-time data but may not reflect emerging opportunities (for example, related to alternative energy generation and climate resilience). Embedded in the most recent occupational analysis could be significant opportunities that are well-aligned with HSU's strengths. We have found some evidence of emerging trends through analysis of current workforce data (e.g. fastest growing occupations), but often job codes do not reflect emerging occupations, so this may be an area where other considerations will need to supplement the evidence provided by current employment data. Finally, there are areas of high workforce needs that HSU is not well-positioned to fill. For example, aerospace engineering is ranked very high in the statewide analysis, but HSU has no current faculty expertise or infrastructure related to this area.

Many large-scale global and national challenges are facing Americans today: among them, access and quality of healthcare, climate change and its impact, and job opportunities for all Americans. These challenges, coupled with the increased automation and reliance of technology in all sectors of the economy, are creating large-scale shifts in the workforce. As a result, the U.S. labor market is also undergoing a rapid change. Automation is likely to impact low-skilled labor disproportionately, and these positions are filled by a higher proportion of minoritized populations. Therefore, education, training, and retraining opportunities remain instruments of equity and inclusion. Another major trend comes from the rapidly evolving nature of technology: “Now technology demands new and higher-level skills, including more critical thinking, creativity, and socio-emotional skills. The skills needed in fast-growing STEM roles, in particular, are continuously evolving. The old model of front-loading education early in life needs to give way to lifelong learning. Training and education can no longer end when workers are in their twenties and carry them through the decades,” [Future of Work in America, McKinsey Global Institute](#). In order for HSU to fulfill its potential as a polytechnic, it must serve a diverse population, provide educational and training opportunities designed for different career stages, respond to climate change, healthcare, and technology needs while providing fundamental skills in critical thinking, creativity, and communication. HSU’s focus on fulfilling workforce needs to a diverse workforce falls in line with the CSU’s mission.

Offering traditional and emerging degree programs, the CSU is an engine of social mobility, educating many students who are the first in their families to attend college. The CSU awards more than 100,000 bachelor’s degrees every year, adding to the nearly four million CSU alumni to the workforce who keep California’s economy vibrant and growing. Degree planning is a critical first step in the development of educational programs designed to meet the needs of California’s skilled and diverse workforce. The CSU delivers more job-ready graduates into the workforce than any other public or private university in the state. The CSU produces 50% or more of California’s graduates in agriculture, business, criminal justice, and public administration. There are still opportunities for enrollment growth in the areas of engineering, life sciences, and information technology.

The following datasets were analyzed:

- Data for the North Coast Region (Del Norte, Humboldt, Lake, and Mendocino Counties) obtained from the California Employment Development Department, Labor Market Information Division, as published in May, 2019 and downloaded in March, 2021 from [data.edd.ca.gov](http://data.edd.ca.gov).
- Statewide data for California obtained from the California Employment Development Department, Labor Market Information Division, as published in July, 2020 and downloaded in March, 2021 from [data.edd.ca.gov](http://data.edd.ca.gov).
- Nationwide data for the United States obtained from the U.S. Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections, downloaded on March 10, 2021 from [data.bls.gov/projections/occupationProj](http://data.bls.gov/projections/occupationProj).

#### ► **National Workforce Needs**

Findings for national data are summarized in the Table below. Interpretation of the findings, as discussed below, also takes into account those fields that align particularly well with HSU with respect to location, resources, and/or commitment to environmental and social justice. For the purposes of this draft, we inserted the programming that has been proposed so far to indicate how these programs align with workforce needs. Based on the data analyzed, the specific occupational categories that were identified as top opportunities include: Computer and Mathematical Occupations (e.g. Data scientists), Engineering Occupations (e.g. Mechanical Engineers, Life, Physical, and Social Science Occupations, and Healthcare Practitioners and Technical Occupations.

**Polytechnic-specific target occupations.** These occupations had high rankings for job openings, growth, and median annual wage, compared to all occupations (polytechnic-specific and not) typically requiring a bachelor's degree or higher for entry, and the rank for job openings, growth, and median annual wage was not in the bottom 25%. \*Indicates top 25% for openings and/or growth, with the other indices not in the bottom 25%. ^ Indicates top 25% for growth, openings, and median annual wage.

**Typ. Entry. Ed = Typical Entry-Level Education, B=Bachelor's, M=Master's, D/P = Doctoral/Professional**

Occupational Title (Abbreviated)	SOC Code	Typ. Entry Ed.	US	CA	North Coast
<b>Computer and Mathematical Occupations</b>					
<b>Computer Systems Analysts</b>	15-1211	B	*	*	
<b>Information Security Analysts</b>	15-1212	B	^	*	
<b>Computer &amp; Information Research Scientists</b>	15-1221	M	*	*	
<b>Network &amp; Computer Systems Administrators</b>	15-1244	B	*		
<b>Database Administrators &amp; Architects</b>	15-1245	B	*		
<b>Software Developers, Quality Assurance Analysts &amp; Testers</b>	15-1256	B	^	*	
<b>Computer Occupations, All Other</b>	15-1299	B	*	*	*
<b>Actuaries</b>	15-2011	B	*		
<b>Operations Research Analysts</b>	15-2031	B	*	*	
<b>Statisticians</b>	15-2041	M	*	*	
<b>Data Scientists &amp; Math. Science Occupations, All Other</b>	15-2098	B	*		
<b>Architecture and Engineering Occupations</b>					
<b>Civil Engineers</b>	17-2051	B		*	*
<b>Electrical Engineers</b>	17-2071	B	*		
<b>Industrial Engineers</b>	17-2112	B	*	*	
<b>Mechanical Engineers</b>	17-2141	B	*		

Occupational Title (Abbreviated)	SOC Code	Typ. Entry Ed.	US	CA	North Coast
<b>Life, Physical, and Social Science Occupations</b>					
<b>Soil &amp; Plant Scientists</b>	19-1013	B		*	
<b>Biochemists and Biophysicists</b>	19-1021	D/P		*	
<b>Microbiologists</b>	19-1022	B		*	
<b>Zoologists &amp; Wildlife Biologists</b>	19-1023	B		*	
<b>Biological Scientists, All Other</b>	19-1029	B		*	
<b>Conservation Scientists</b>	19-1031	B			*
<b>Medical Scientists, Except Epidemiologists</b>	19-1042	D/P		*	*
<b>Environ. Scientists &amp; Specialists, Including Health</b>	19-2041	B			*
<b>Geoscientists, Except Hydrologists &amp; Geographers</b>	19-2042	B			*
<b>Economists</b>	19-3011	M	*		
<b>Urban &amp; Regional Planners</b>	19-3051	M	*		
<b>Social Scientists &amp; Related Workers, All Other</b>	19-3099	B		*	
<b>Healthcare Practitioners and Technical Occupations</b>					
<b>Dentists, General</b>	29-1021	D/P			*
<b>Dietitians &amp; Nutritionists</b>	29-1031	B	*	*	*
<b>Physician Assistants</b>	29-1071	M	*	*	*
<b>Occupational Therapists</b>	29-1122	M	*	*	
<b>Physical Therapists</b>	29-1123	D/P	*	*	*
<b>Speech-Language Pathologists</b>	29-1127	M	*	*	
<b>Veterinarians</b>	29-1131	D/P	*	*	*
<b>Registered Nurses</b>	29-1141	B	*	*	*
<b>Nurse Anesthetists</b>	29-1151	M	*		
<b>Nurse Practitioners</b>	29-1171	M	^	*	*
<b>Physicians, Other; &amp; Ophthalmologists, Except Pediatric</b>	29-1228	D/P	*		
<b>Clinical Laboratory Technologists and Technicians</b>	29-2010	B			*

### ► California Workforce Needs

In addition to the aforementioned data sets analyzed, the *Employment Development Department of the State of California Labor and Workforce Development Agency* were considered. The fastest growing STEM occupations in 2015 related to polytechnic programs were: Software Developers, Applications, Computer User Support Specialist, Environmental Scientists and Specialists, Environmental Engineers and Biomedical Engineers. The following table depicts California's top workforce needs.

Occupation	2020 Median Annual Wage <sup>1</sup>	Online Job Postings (6/13/20-8/11/20)
<b>Registered Nurses</b>	\$112,993	14,896
<b>Software Developers, Applications<sup>3</sup></b>	\$133,238	14,658
<b>Medical and Health Services Managers</b>	\$125,108	6,244
<b>Marketing Managers</b>	\$161,160	5,512
<b>General and Operations Managers</b>	\$115,303	5,442
<b>% of App Enrolled</b>	5	15

Additional top occupations identified that align with HSU polytechnic academic programs (existing and buildout planning include:

- Computer and Mathematical Occupations:** Computer systems analysts, Information security analysts, Computer and information research scientists, Software developers and software quality assurance analysts and testers, Computer occupations, all other, Operations Research Analysts, Statisticians. At the state level, we see needs that could be met by the following proposed programming: Statistics (MS), Computer Engineering, Computer Engineering Technology, Cybersecurity, Data Science, Software Development, Software Engineering, Web Design and Development.
- Architecture and Engineering Occupations:** Civil Engineers and Industrial Engineers. Programming to meet this need would be Master's Engineering Leadership or Water Resources Engineering.
- Life, Physical and Social Science Occupations:** Soil and Plant Scientists, Biochemists and Biophysicists, Microbiologists, Zoologists and Wildlife Biologists, Biological Scientists, all other Medical Scientists except Epidemiologists, Social Scientists, and Related Workers. Proposed programming to meet these needs: Marine Biology (BS & MS), Biodiversity / Conservation, Cannabis Studies (planet track), Tribal Natural Resource Programs / Cross-Cultural Natural Resource Management.
- Healthcare Practitioners and Technical Occupations:** Dietitians and Nutritionists, Physician's Assistants, Occupational Therapists, Physical Therapists, Speech-Language Pathologists, Veterinarians, Registered Nurses, and Nurse Practitioners. Proposed programming to meet these needs: Biomedical Science, Clinical Lab Science / Medical and Clinical Laboratory Technologists, Community/Indigenous Public Health, Epidemiology, Health Navigation, Lifestyle Medicine, Occupational Therapy, Speech Pathology, Public Health Engineering, and Clinical Lab Science / Medical and Clinical Laboratory Technologists.

### ► Local and Regional Workforce Needs & Proposed Programming

Approximately 91% of the HSU student body stems from California. A large portion (40%) of the HSU student population is from various regions of Northern California: 17% local, 12% SF Bay Area, and 11% Northern California. Thus, meeting local and regional needs represent an important niche opportunity for HSU and several reports identified six "targets of opportunity" for California's North / Far North region which are: a) Diversified Health Care, b) Specialty Food, Flowers, & Beverages, c) Building & Systems Construction, d) Investment Support Services, e) Management & Innovation Services, f) Niche Manufacturing.

In the area of Diversified Health Care programs have been proposed in Biomedical Science, Cannabis Studies, Clinical Lab Science, Health Navigation (BS degree), Nursing (MS), and computing programs (eg: Information Technology). In Specialty Food, Flowers, & Beverages, proposed programming related to this cluster include Agricultural, Cannabis, and Sustainable Food Systems. In the area of Building & Systems Construction engineering programs are being proposed. In the Investment Support Services Cybersecurity and Software Engineering. In Management & Innovation Services there are no clear links between proposed polytechnic programming although computational programs may be applicable. Lastly, Niche Manufacturing there may be links to Engineering Technology/Sustainable Built Infrastructure/Appropriate Technology.

The report also identified sectors of the local economy as “Emerging Industries” that promise long-term growth potential. These include: alternative energy generation and alternative agriculture. Several programs were proposed related to energy generation: Environmental Resources Engineering 4+1 Masters and Sustainable Energy Engineering/Mechanical Engineering. The programs listed for “Specialty Food, Flowers, & Beverages” could also support alternative agriculture. One additional data set identified opportunities which aligns well with Environmental Scientists and Specialists and Geospatial degree programs.

### ► Immediate Plans and Intermediate Steps

Detailed program plans for the degree programs reflected for 2023 launch timeframe have been submitted to the Chancellor’s Office for inclusion in the Academic Master Plan (next posting date March 2022). Several degree programs have been submitted on the “fast-track”. In Fall 2021, detailed program planning will resume including assigned time for some faculty to spearhead program planning particularly for programs requiring specialty accreditation, T/TT hiring for faculty in these programs with an eye toward cluster hiring to maximize diverse hiring.

## **DESCRIPTION OF LOCATION AND HOW IT LENDS ITSELF TO CERTAIN PROGRAMS**

Humboldt State University is in Humboldt County, a rural area situated along the rugged and remote Northern California coastline 280 miles north of San Francisco, surrounded by ancient redwoods and near the Pacific Ocean, pristine rivers, mountains, and wetlands. The region is predominantly white with a growing Latino population, a Hmong population, and a significant Native American population, including 12 tribal nations within Humboldt County. HSU sits on the traditional homelands of the Wiyot people in what is currently called Arcata, California. The Wiyot people call this area Goudi’ni (over in the woods). Humboldt County is also home to the three largest tribal nations in California: Yurok, Karuk, and the Hoopa Valley Tribe. While Native people are 1.7% of the total population in California, they are 7% of the population in Humboldt County. Humboldt State has the highest percentage of Native American students at 1.3% of the total undergraduate student body.

Unique among CSU campuses in its close proximity to several thriving Native American communities, Humboldt State provides a rich environment for studying the Native American heritage and for preparing for careers in education, counseling, and cultural and natural resource management. The curriculum provides a foundation of knowledge, analytical skills, understanding, and sensitivity for individuals who may wish to seek careers that relate to Native American communities. There are careers in the areas of federal Indian law, tribal governments, Native American education, cultural and natural resource management, and human services. In addition, the Native American Studies Department is launching the first and only CSU Food Sovereignty Lab in Fall 2022. Lab work will connect students to tribal lands and communities which includes several areas connected through river and waterways, spanning coastal lands, mountain ranges, grasslands, and areas of cultural significance.

To address cultural competency in healthcare, HSU nursing students will gain perspective on the complex needs of a remote and rural region with numerous tribal communities. Through their community health practicum, students will provide care and advocacy for an underserved population in a local health care organization.

HSU is an incredible place to study biology, botany, or zoology because of the ecologically diverse field sites of the region. The setting facilitates hands-on work with vascular plants, bryophytes, lichens, fungi, and algae. HSU’s equipment and facilities are on par with those of bigger research universities and provide direct access for undergraduate students. HSU’s plant collections are the best in the CSU, and facilities like the Dennis K. Walker Greenhouse and Vascular Plant Herbarium allow students to experiment with living plants during their studies. As a zoology major, students can study invertebrates in the tidepools, insects in the streams, flying squirrels and amphibians in the redwood forests, and whales in nearshore waters. Marine animals are studied at the Telonicher Marine Lab or aboard the university’s 90-foot ocean-going research vessel, the Coral Sea. Students can gain scientific diving skills through a dedicated Scientific Diving Minor. The HSU Vertebrate Museum, which houses over 15,000 mammal, bird, amphibian, and reptile specimens, is used for teaching and undergraduate research.

Nearly five million acres of national forest, parks, and public wilderness lands near HSU provide opportunities to study wildlife, ecology, and management. Among those regions: the Humboldt Bay and coastal habitats attract a wealth of the Pacific Flyway’s migratory shorebirds, raptors, and waterfowl. At the Arcata Marsh & Wildlife Sanctuary alone,



there are more than 270 species of birds throughout the year. Redwood National and State Parks and Six Rivers National Forest are also home to black bears, river otters, Roosevelt elk, bobcats, and mountain lions.

Humboldt State is a neighbor to the Pacific Ocean, Humboldt Bay, and major coastal rivers and lagoons. The university shares these resources with a strong commercial fishing fleet and aquaculture industry, as well as countless recreational anglers. These resources and external partners are able to enrich the Fisheries curriculum and student experiences. The Fisheries program stresses the development of a field-based understanding of the relationships between freshwater and marine fishes and the habitats upon which they depend, and the hands-on work students do provides specialized training as well.

HSU is just minutes away from the Pacific, giving students in the Oceanography program easy access not only to the largest and deepest ocean on Earth, but also to a unique stretch of coastal California known as the North Coast, which is home to some of California's most wild and pristine coastline. HSU continues to be the only major institution with a coastal presence between Bodega Bay, California and Coos Bay, Oregon. The North Coast is among the least studied regions of the West Coast, providing students unique opportunities for research with faculty, internships, and volunteer work. Throughout their career at HSU, oceanography students learn and practice the techniques needed to conduct research in the laboratory and aboard the Coral Sea. For example, they learn to use trawls, plankton nets, box-corers, sediment grab samplers, CTD/Rosette samplers, side-scanning sonar, and other oceanographic sampling equipment. By the time students graduate, they can expect to log around 100 hours at sea.

In addition to being in the open ocean, oceanography majors have access to the Marine Lab in nearby Trinidad which is often used for student and faculty research projects and where several of the core courses are taught. The lab is well-equipped for marine education and research, including a constantly recharged seawater system with chiller, a wet laboratory for rearing marine invertebrates and fishes, a culture room for larval invertebrates and algae, a walk-in freezer, a walk-in cold room, a large shop for design and fabrication of experimental equipment, and a microscope room. Our cutting-edge equipment includes the Burkolator, sophisticated equipment designed to measure ocean acidification in real time.

Many lab sessions of the Environmental Science & Management courses are held in nearby natural habitats and students take day-long or multi-day field trips to places like the Trinity River, Crater Lake National Park, Trinity Alps Wilderness, and the Mattole River watershed. The setting allows seniors in the capstone course of the program to synthesize theory, research, and field experience and apply concepts to real-world environmental issues.

Forests cover one-third of the landmass in the United States and rangelands cover more than half of the earth's land surface. Forestry & Wildland Resources programs help students connect with and manage these lands, ensuring a sustainable future for the nation's wildlands. HSU students get hands-on learning in some of the world's most spectacular and important forests and rangelands, personal attention from faculty, and a clear path to a career outdoors. Open expanses of grasslands—private ranches, as well as federal and state land—are just minutes from Humboldt State. Students learn from these lands through fieldwork, hands-on experiences, and faculty connections, gaining an understanding of how important they are as wildlife habitat and to human society. Those experiences turn into careers—government and private employers are always looking for rangeland and soil scientists, and opportunities are growing.

Humboldt State is the only CSU located along the active Cascadia subduction zone and south Cascades volcanic arc, as well as near the Six Rivers National Forest and Trinity Alps, giving student researchers in the Geology program unique opportunities to study diverse geologic activity and formations. California's second largest river is just one of the many nearby watersheds and the coastal King Range is nearby. Field research takes place at Big Lagoon, Lassen Volcanic National Park, Trinidad State Beach, Redwood National Park, and the area surrounding Mt. Shasta. Geology students culminate their college career with a four-week intensive field camp, an important milestone in the education of every geologist. Students learn to collect geologic data and display it in map and report form, interpret geologic structures, and communicate results both orally and in writing. Unlike many universities that use permanent facilities, HSU's program has the flexibility to move to different locations from year to year, providing more variety and more geology exposure for students.

## COMMITMENT TO INCLUSIVE STEM EDUCATION

An inclusive education is one that intends to remove social exclusion resulting from historical attitudes towards races, economic class, ethnicity, religion, and gender (Ainscow, M. 2005). In this regard, HSU is among one of the most unique and diverse institutions in the CSU system. Originally founded as a teacher's college in 1913, the university has served a predominantly white student population for the majority of its 108 year history, despite residing on Wiyot ancestral territory in the service region of nine federally-recognized Native American tribal nations. As the only CSU campus situated amongst a large Indigenous population, American Indian scholar Vine Deloria, Jr. recognized HSU as "absolutely unique within the California State University system," (Deloria 1989). (<http://hdl.handle.net/2148/1244>) Similar to the national trend in higher education, the number of HSU students who are from a cultural or economic background that is traditionally underrepresented in higher education and/or are first-generation students has been steadily increasing. Since 2010, enrollment of racially minoritized groups in STEM majors, most from outside of our rural county, has increased by over 75%.

HSU has a long tradition of providing support for racially minoritized STEM students, beginning in 1969 with the founding of the Indian Tribal & Educational Personnel Program (ITEPP). Just three years later, the Native American Career Education in Natural Resources (NACENR) was established to train Indigenous students for professional resource management positions in American Indian communities, federal and state government agencies, and the private sector. In 1991, the mission and programming of NACENR expanded and evolved into the Indian Natural Resources, Science & Engineering Program (INRSEP), which is still in existence today. Around that same time, HSU STEM faculty became involved in initiatives to support the implementation of best practices in STEM education

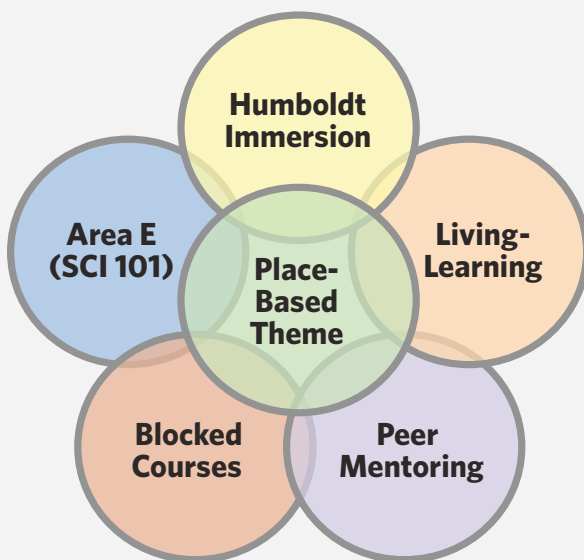
## Inclusive Student Success and Diverse Student Engagement

### EARLY SUCCESS THROUGH FIRST YEAR LEARNING COMMUNITIES AND THE EDUCATIONAL OPPORTUNITY PROGRAM

As of Fall 2020, 56% of first-time freshmen (FTF) at HSU are participating in a Place-Based Learning Community (PBLC), a Student Learning Community (SLC), and/or the Educational Opportunity Program (EOP). This approach to early, inclusive success has been fueled by HHMI, AAC&U, NSF, and CSU GI 2025 initiative funding. First-year, place-based learning communities are a unique signature value of an HSU education and are required for all incoming, first-year students in STEM fields. Early indicators show that PBLCs are a key to diverse student retention and success.

PBLCs include all majors in the College of Natural Resources & Sciences (CNRS). Every entering FTF in CNRS, about 44% of HSU's incoming FTF class, is an automatic participant in one of five major-based PBLCs. PBLCs are cohorts of first-year STEM students in linked courses, with interdisciplinary themes rooted in our unique place. Hands-on experiential learning, centered in Indigenous perspectives, and an emphasis on building an inclusive multicultural community of learners, PBLCs intentionally link foundational STEM and general education classes to real-world socio-environmental challenges while connecting students to their major, professors, peers, and HSU's range of student support services. Informed by the literature on high-impact practices, the PBLCs rest on a theoretical framework of inclusive student success, and they include five interwoven components that benefit from collaboration and magnify impacts across campus (Box 6).

**Box 6. Here we offer a brief overview of Place-Based Learning Community components**



**Humboldt Immersion**—three days of hands-on

field trips, community building exercises, and academic activities the week prior to the start of fall classes.

**Living-Learning**—students have the option to live together in the Residence Halls on campus.

**Peer Mentoring**—students are paired with a mentor through the Retention through Academic Mentoring Program (RAMP).

**Blocked Courses**—students enroll in designated course sections, enabling tailored content.

**Area E (SCI 100)**—a 3 unit GE course unique to each program that features university 101 type material, connects students to their major, and links the place-based theme through Humboldt Immersion and the blocked courses.

The PBLC design allows students to gain hands-on experience much earlier in their studies than they would through coursework alone. Before they even begin their first day of college coursework, PBLC students are taken on field trips to scenic Humboldt locations during the experiential learning Summer Immersion program where they collect samples, learn to take measurements, and conduct introductory lab work related to their discipline. These projects continue through Science 100 and blocked courses, weaving the program themes throughout students' first year and lending practical experience and real-world examples to a variety of interdisciplinary topics. Through Science 100 and Living-Learning options, students are encouraged to attend purposeful co-curricular activities related to their program theme or discipline including guest speakers, workshops, club and internship information sessions, study sessions, non-academic field trips, art and cultural events, and community service opportunities.

Building components around place-based themes enables us to weave social, environmental, civic, and cultural themes of our region into foundational STEM coursework to root students simultaneously in their discipline and into the local communities and landscapes. Students are first connected to place through Summer Immersion, when they physically visit ecologically distinct locations in the region. Students are welcomed by members of the tribes affiliated with these ancestral lands and are given historical context, engage in discussions, interact with demonstrations and displays, learn about traditional ecological knowledge, and hear from STEM professionals working for the tribes. All PBLC students take a Native American Studies course in their first-year as part of their blocked schedule. Students learn the importance of reciprocal giving through Service Learning opportunities with our tribal partners, such as the Klamath River Cleanup, which focuses on invasive species removal and trash collection.

## Place-Based Learning Communities by Major

Program	Included Majors	Place-Based Theme
<b>Among Giants</b>	<p><b>Biology</b> (<i>Cellular/Molecular; Ecology; General; Microbiology; Science Education</i>)</p> <p><b>Botany</b></p> <p><b>Zoology</b></p>	Students explore how land management practices change the biodiversity of coastal redwood forests and prairies—making comparisons between habitats by sampling microbes, identifying plants, and detecting cryptic mammals—and learn how the Wiyot and Yurok tribes have interacted with these species and ecosystems since time immemorial.
<b>Klamath Connection</b>	<p><b>Environmental Science &amp; Management</b> (<i>Ecological Restoration; Planning &amp; Protection; Geospatial Science; Energy &amp; Climate; Environmental &amp; Natural Resources Recreation; Environmental Education &amp; Interpretation</i>)</p> <p><b>Environmental Resources Engineering</b></p> <p><b>Forestry</b> (<i>Hydrology; Conservation; Forest Operations; Restoration; Wildland Fire Management; Tribal</i>)</p> <p><b>Wildlife</b> (<i>Management &amp; Conservation; Conservation Biology &amp; Applied Vertebrate Ecology</i>)</p>	Students explore multiple environmental and social justice issues associated with the Klamath River Basin, with conflicts over water rights, natural resource conservation, and issues affecting Yurok and Karuk communities as central themes. Students take water samples from the Klamath River during Humboldt Immersion, which they bring back to the lab to analyze for the presence of blue-green algae.
<b>Representing Realities</b>	<p><b>Mathematics</b> (<i>General; Education; Applied</i>)</p> <p><b>Computer Science</b></p>	Students explore ways to represent the reality of the world around them through mathematical modeling and computer programming. Students discuss mathematical patterns and traditional weaving techniques with members of the Trinidad Rancheria, collaborate with forestry professionals to measure trees and estimate carbon sequestration, and generate computer models of digital forests.
<b>Rising Tides</b>	<p><b>Biology</b> (<i>Marine</i>)</p> <p><b>Oceanography</b></p>	Students explore marine life through tidepooling and plankton sampling, and compare water quality and clarity in Humboldt & Trinidad Bays. Students explore the cultural significance of marine resources from members of the Wiyot Tribe and Trinidad Rancheria, and utilize library resources to dive deeper into local topics related to Tribal Nations and Traditional Ecological Knowledge.
<b>Stars to Rocks</b>	<p><b>Chemistry</b> (<i>General; Biochemistry</i>)</p> <p><b>Physics</b> (<i>General; Astronomy</i>)</p> <p><b>Geology</b> (<i>General; Geoscience</i>)</p>	Students explore the interdisciplinary nature of their majors, and how they can not become an expert in one without understanding the others. Physics describes the forces acting in our universe, shaping the chemical reactions that form the geological matter of our planet. Students conduct river geomorphology and water quality measurements, explore rates of change, and engage in lab exercises related to ocean acidification, dissolved gasses, and geologic time.

The PBLCs aim to foster a sense of belonging and build an inclusive community of support at HSU and within the broader North Coast community. This begins as early as outreach events, where PBLC staff act as an approachable one-stop shop to get students the information they are looking for as they prepare to enroll. During Summer Immersion, students connect to peers with icebreaker activities facilitated by their RAMP peer mentor, and strengthen relationships through shared hands-on experiences, academic activities, and shared meals and co-living spaces in the residence halls.

Student Learning Communities (SLCs) link a cluster of courses around an interdisciplinary theme and enroll a cohort of students who share a common concern/interest. They are designed to improve a student's sense of belonging, community, and place. Students are connected with specialized advising and mentoring. The curriculum in the SLCs is grounded in the place-based work of its faculty and focuses on creating a sense of connection to help students commit to furthering their studies at HSU. SLCs in the College of Arts, Humanities & Social Sciences include Global Humboldt and Students for Violence Prevention and in the College of Professional studies, Creando Raíces and Teachers 4 Social Justice.

- Global Humboldt is designed for students in their first year who are still considering a major of choice. As part of a small community students have the opportunity to share a residence hall, fulfill a wide variety of general education courses together, and participate in activities both in and outside of class. This themed learning community offers an interdisciplinary introduction to the world.
- Students for Violence Prevention stresses the importance of community, consent, respect, and supporting one another. Anchored by the national award-winning student bystander intervention program called CheckIT, the community offers students the chance to develop skills in violence prevention and take courses from professors with expertise in non-violence and social justice.
- Creando Raíces is anchored by the longstanding work and mutual collaboration of HSU's Ethnic Studies scholars. Creando Raíces students get to explore the hands-on work of community organizing and education that builds social movements.
- Teachers for Social Justice is an educational community created for freshmen majoring in Liberal Studies - Elementary Education (LSEE), Art Education, or Kinesiology Education. Students in this year-long program interact with the world of teaching and social justice while gaining a network that supports them academically.

The Educational Opportunity Program (EOP) Fall transition courses offer an opportunity for students to take credit-bearing courses that support A-G courses in partnership with academic departments. These courses include an adjunct course for Botany 105 and Critical, Race, Gender & Sexuality 108, where students have the opportunity to collaborate with peers, delve deeper into coursework, and participate in hands-on activities that deepen understanding of course concepts. EOP also offers transition courses related specifically to the college experience. These 1 unit seminar classes provide students with opportunities to get acquainted with campus resources and services beyond EOP. The freshmen seminar course also provides hands-on opportunities for students to work on resumes, cover letters, and to develop time management and study skills with the help of EOP/SSS staff.

## **ACADEMIC AND CAREER ADVISING**

The former Advising Center and Career Center were combined into the Academic & Career Advising Center (ACAC) to better help students connect the skills they learn in the classroom to their future careers. Professional academic advisors in ACAC employ a holistic advising style that guides students through their transition to the university and provides them the needed resources to support their success, both academically and professionally. They advise first and second year students in 11 majors and are the home department for students who are undeclared. The advisor for first and second year student athletes is also housed in ACAC. Students advised by ACAC receive standardized, consistent programming, weekly email communications on timely topics, and an advising syllabus. ACAC also created a standardized advisor training model, based on student development theory, Justice, Equity, Diversity, and Inclusion principles and national best practices to help advisors better support their advisees.

ACAC and The Center for Community Based Learning (CCBL) provide training for faculty and academic departments on topics such as academic recovery (strengths-based), an overview of advising policy and practice for new faculty advisors, advising transfer students, advising students during COVID-19, integrating career into their curriculum, and creating new Service Learning courses. ACAC also hosts a comprehensive website of resources for students and faculty. ACAC and CCBL have been averaging about 120 training workshops or collaborations with faculty throughout the three colleges. ACAC, along with EOP, leads a monthly advising roundtable that includes professional advisors in ACAC, EOP, Extended Education, LSEE, the Cultural Centers for Academic Excellence (CCAEs), PBLC program directors, faculty, and the Registrar to provide training on advising best practices, professional development, current topics in higher education, and campus practices and policies—all with a focus on meeting students where they are and honoring their various identities and experiences.

ACAC academic advising program includes:

- **Tailored/Specialized advising**

Embedded advisors in some departments: In addition to advising students in the major, ACAC academic advisors attend department meetings, co-teach introductory courses, work on curriculum and serve as an advising resource for faculty in related departments.

- **HSU Cares call/email campaign**

HSU Cares is a program developed by ACAC which seeks to increase new student retention by connecting first-year students to support services, resources, and the campus through regular outreach on topics that are timely to the student experience at every stage throughout the year

- **Step Up (Early Alert) survey and intervention**

The Step Up Initiative implemented the HSU Strategic Enrollment Management Plan 2018-2023 Objective 4.4, which states: “Expand early alert support to all first-year students and first semester transfer students with protocol designs informed by best practices in intervention for low-income, first-generation, students of color, and/or those underprepared for college.”

- **Advising for student-athletes**

All first and second year student-athletes are served by a dedicated academic advisor. In addition to the general advising and academic probation services provided, the student-athlete advisor also serves as a liaison between Athletics and campus departments, including individual faculty, staff, and programs on campus.

- **Summer Registration (freshman, transfers, orientation)**

ACAC advisors comprise the summer registration team for non-EOP incoming freshmen and advise students on course selection, degree requirements, and other questions they may have regarding their choice of major and enrollment at HSU. Each student’s schedule is audited for adherence to their Major Academic Plan, appropriate level courses, and full-time enrollment.

- **Supporting students on probation; reinstatement and DQ Advising**

All HSU students are able to receive individualized, holistic academic advising through ACAC when their academic standing is either Reinstated or Disqualified. Approximately 250 students are disqualified each academic year and approximately 100 students are reinstated during each term. The advisor utilizes a personalized approach and targeted outreach which encourages students to return to HSU, learn to be successful, and pursue academic goals and graduation.

Serving as a “caseworker” for academic recovery, the reinstatement advisors interface closely with faculty advisors and a wide range of student services (Dean of Students/CARE Services, Counseling & Psychological Services, Student Disability Resource Center, CAEs, Financial Aid, Office of the Registrar, and Admissions) to advocate for students, assist with referrals, create more equitable processes, and problem solve when complex issues arise.

## **DEPARTMENT ADVISING AND ADVISING FOR SPECIAL POPULATIONS**

The best practices for faculty advising differ by department. However, some departments reported to provide training/mentoring of some sort for tenure track faculty before their first assigned advising. For example, each faculty member in the Politics department receives training from ACAC. Additionally, departments such as Education (entire program) and Wildlife (for first-year students) have professional advisors. Departments such as Fisheries Biology are intentional when assigning the advisors to individual students with the goal of matching common interests/expertise of advisors and advisees.

EOP offers holistic advising specific to the needs of first-generation and low-income students. This includes, navigating academic requirements, understanding course offerings and coaching to connect with major advisors. It also includes transitional support, financial aid advising, budget planning, career exploration, personal advising, and referrals to other services such as tutoring, learning skills development, career services, and other departments for support in all aspects of the college experience.

The Indian Natural Resources Science & Engineering Program + Diversity in STEM (INRSEP+) serves students by connecting them to research opportunities, providing academic and career counseling, assisting with entrance into graduate programs, and fostering an inclusive and supportive learning community within the INRSEP+ house.

The Indian Tribal & Educational Personnel Program (ITEPP), established in 1969, provides culturally responsive advising, educational planning, and co-curricular programming in support of Native students. Utilizing a narrative approach, by actively listening to student stories, Native professional advisors develop trust and are able to assist students in designing educational plans that reflect their cultural, family, and community goals. ITEPP advising services include culturally-responsive academic advising, educational planning and course mapping, promotion of and assistance with scholarship applications, and monitoring scholastic progress.

The Student Disability Resource Center consistently serves 10% of the HSU student population. Advising and inclusive support include a one-hour interactive assessment scheduled with each student and an accessibility advisor initially and a follow-up is conducted every semester with each registered student either by phone call or email. Accommodation memos are provided at the request of registered students each semester which gives the opportunity for accessibility advisors to review what's working and what is not with accommodations, GPA, problems/solutions, GWPE reminders, retroactive withdrawal due to disability complications, and more.

## **RETENTION AND INCLUSIVE STUDENT ENGAGEMENT EFFORTS**

The Learning Center offers a wide range of academic support for students, including tutoring, Supplemental Instruction (SI), writing support, academic coaching, and skill development. The Center has expanded STEM tutoring and increased visibility in 2017 with funding through the HSI STEM grant. By moving to the centrally located Library first floor and offering drop-in tutoring during weekends and evenings, both in person and online, the center provides students easier access to peer-to-peer assistance. Employing approximately 100 students per year, staff have adapted ESCALA-based equitable teaching principles to train student leaders on equitable tutoring and Supplemental Instruction practices. With guidance from staff, student leaders reflect upon and review their own tutoring and SI practices to integrate equitable practices into their work.

In addition to tutoring, the Supplemental Instruction program at HSU is a highly effective means of support for students in STEM and non-STEM classes. With high participation rates and virtual options, SI is offered as a for-credit class where students review challenging course content in active and collaborative ways, develop a deeper sense of belonging to campus, and learn transferable study strategies.

The Learning Center also supports writing across the disciplines through the Writing Studio, a peer support program staffed by trained undergraduate and graduate student consultants from a range of majors. The Writing Studio works with students at any stage of the writing process for any writing project; consultations can be conducted in English and Spanish. In 2019, the Writing Studio partnered with the HSU School of Education Developing Hispanic-Serving Institutions (DHSI) Grant to develop the DHSI Writing Fellows program. This program, while connecting students to academic resources and the HSU community, seeks to position multilingual students as sources of writerly knowledge within a curriculum that strives to validate and sustain students' diverse cultural and linguistic backgrounds.

## ► Tutoring Partnerships with Mathematics and Engineering

To reach all students, the Learning Center partners with departments to provide tailored support for their students. For example, the Mathematics Department partners with the Learning Center to support stretch/“intensive” math courses attended by category III and IV students. In past years, students in these entry level courses did not seek outside support so this approach brings peer support to them. Supplemental Instruction (SI) leaders work with instructors and offer mini or full SI sessions within the core class. While there is no evidence yet of its effectiveness, the embedded SI is promising.

The Environmental Resource Engineering program and the Learning Center work together to hire and place tutors to support key engineering courses. The three departmental elements of having challenging coursework, flipped classrooms, and hands-on learning has made engineering tutors highly utilized and effective, even during the pandemic.

In Fall 2011, the Economics department began to offer SI as an optional course to support Principles of Economics, Economics 210, and have recently added Intermediate Microtheory & Strategy, Economics 310. While the program is housed in economics, the department SI leaders participate in the Learning Center’s SI training and development sessions with other SI leaders and tutors throughout the semester.

HSU has a few distinct peer mentoring programs that serve different needs of student populations. The Retention through Academic Mentoring Program (RAMP), was established in 2011 to serve first-generation students. Over the years, RAMP has expanded to include and/or partner with STEM RAMP, Major-Based Peer Mentors (MBPM), and the Jeffrey Navarro Mentorship Program. In addition, EOP coordinates a mentorship/student coaching program. The Jeffrey Navarro Mentorship Program supports two to three environmental resources engineering students per year to serve as mentors to their peers.

## ► Basic Needs

HSU offers a variety of services and programs to support student basic needs, including: food and housing insecurity, childcare, transportation, mental and physical health, employment, immigration status, and disability resources. A basic needs webpage on the university website serves as a central hub that provides descriptions and contact information for basic needs resources on campus.

HSU’s Emergency Housing Fund places students experiencing homelessness or housing insecurity in temporary housing on campus. And a housing liaison, hired in fall 2018, helps students connect with off-campus housing, learn about housing rights and how to be a good tenant, and more.

In 2020, HSU received a \$640,000 grant to support and expand a number of programs that address food and housing insecurity among students, including the Oh SNAP! student food services and programs. In addition to an on-campus food pantry, Oh SNAP! assists students applying for CalFresh and health insurance, offers cooking demos and recipes, and launched a redistribution program for students with leftover meal plan points to share them with students in need. The funding also supports basic needs research conducted by the Department of Social Work.

## ► Direct Support for BIPOC Enrolled Students and Inclusive Campus Practices

### ▪ Office of Diversity, Equity & Inclusion

Dr. Elavie Ndura, the Associate Vice President and Campus Climate Officer serves as a member of the President’s Cabinet. She also directs the Office of Diversity, Equity & Inclusion (ODEI) in guiding HSU towards achieving the shared vision of equity and inclusion for all students by implementing our six-pillar framework of inclusive excellence: (1) A safe and welcoming community; (2) Equitable opportunities and outcomes; (3) Strategic partnerships; (4) The development of intercultural humility; (5) Organizational resources; and (6) Collaborative leadership and shared accountability ([diversity.humboldt.edu](https://diversity.humboldt.edu)).



## ■ Cultural Centers for Academic Excellence

The Cultural Centers for Academic Excellence (CCAEs) are an integral team in support of students of color at Humboldt State University that provide students with networks that blend cultural, community, and faculty engagement with structured mentoring to assist students in reaching their academic and career goals. As such they provide culturally responsive bridges to academics by providing academic advising, peer mentoring, identity development, career and leadership guidance, and co-curricular programming to address needs of individual communities and intersection of identities.

### » Umoja Center for Pan African Student Excellence (UCPASE)

The UCPASE is a cultural community with a mission of supporting self-identified Black students in successfully navigating higher education, developing scholars and professionals in the service of Black communities, and educating both the Black campus community and the broader campus community in aspects of Pan-African cultures and identities. The Center's physical space offers all students a place to unplug, hangout, study, and have a sense of ownership on campus. To intentionally address Black student experience at HSU, the Center leads a conversation with Black students, faculty, and staff about what positives students are taking away and what can be improved. The UCPASE also engages with the off-campus local community (both with organizations and the natural environment) to promote students in developing a sense of belonging off campus as well. In collaboration with STEM disciplines, the Center is involved in efforts to develop networks with Black professionals in the field and organizations committed to diversity and equity.

### » El Centro Académico Cultural de HSU (El Centro)

El Centro engages with Latinx students primarily but works with all students on campus to help them navigate pathways to success that honors and respects their cultural and historical trajectory in coordination and collaboration with other campus departments. At El Centro there is a cultural resource center and library for students. We offer students free printing and a meeting space for various organizations with an affinity to organizations that identify with the Latinx community. Throughout the year we organize culturally relevant programs based on our communities distinct experiences. El Centro coordinates with housing through La Comunidad culturally themed housing, works with Admissions to reach students, and facilitates interactions between students and faculty members. On average El Centro serves 33% of the student population.

### » Indian Teacher Education Personnel Program - Native American Center for Academic Excellence (ITEPP/NACAE)

The ITEPP/NACAE program engages students through direct service and in coordination with other campus departments. Within the ITEPP house there is a cultural resource center and library for students and the HSU community. ITEPP staff help create internships and partnerships with tribes and agencies and nurture strategic activism among participants. ITEPP staff design culturally-pertinent programming, supporting tribal language, culture, and knowledge. ITEPP collaborates with Housing to provide the Native Living Suite, works with Admissions to reach students, and encourages student interactions with Native alumni and other professionals.

In support of HSU becoming a polytechnic, we received a collaboratively written statement from the leadership and staff from the Cultural Centers for Academic Excellence. Excerpts from that collective statement are provided below:

*The CCAEs are an integral team in support of students of color. Our students have shared with us the discomfort they have from being away from their communities, families, and support. They struggle to maintain balance and wellness as they pursue their educational journeys. They need to be encouraged, inspired, and connected with alumni and people who look like them who have shared experiences in their fields of study. They have expressed a need for their families to be involved and to feel welcomed and respected in the process of their entering and navigating higher education. They want leadership opportunities, culturally-relevant spaces, and advocacy from allies who seek to understand their struggles. They want safe spaces for deeper connections and access to faculty networks—but in a way that honors the unique wealth of assets they bring to the table. They want HSU*

*to recognize their value and contribution to the campus. The CCAEs provide the culturally-relevant spaces to support their academic success and hear their feedback. They provide culturally responsive bridges to academics by providing academic advising, peer mentoring, identity development, career and leadership guidance, and co-curricular programming to address needs of individual communities and intersection of identities.*

» **Indian Natural Resource Science & Engineering Program (INRSEP)**

INRSEP staff encourage students to participate in activities known to increase retention in STEM such as attending scientific conferences, applying for graduate programs, and securing summer research or internship positions in a STEM field.

» **EOP & TRIO Student Support Services**

The Educational Opportunity Program (EOP) serves as a primary vehicle for the CSU in increasing the access and academic success and retention of California's educationally and economically disadvantaged students, thus working in the spirit and abiding by the legislative intent that originally established the program in 1969. Similarly, the TRIO Student Support Services program assists low-income and first-generation students by providing opportunities for academic development, assists students with basic college requirements, and motivates students toward the successful completion of their postsecondary education.

» **External Grants in Support of HSU as an HSI**

In 2016, Humboldt State University applied for and was awarded a \$3.9 million grant by the U.S. Department of Education's Hispanic-Serving Institutions (HSI)- Science, Technology, Engineering, or Mathematics (STEM) and Articulation Program. HSU received the grant award over five academic years, 2016-17 through 2020-2021.

The program is intended to increase the number of Hispanic and/or low-income students attaining degrees in the fields of science, technology, engineering, or mathematics (STEM); and to develop model transfer and articulation agreements between two-year and four-year institutions in such fields. The outcomes in these efforts are detailed in the [PBLC section of the report](#).

In addition to student outcomes, faculty and staff development have been central to this effort. Specifically:

The HSI STEM grant has funded a total of 42 faculty/staff members to participate in the ESCALA CTL-HSI program from 2017 up to 2020, where 33 have earned the 27-hour Certificate in College Teaching & Learning in HSIs. This faculty development program has led to seven of those faculty/staff members to serve as peer coaches and three to facilitate workshops both at HSU and nationally.

Humboldt State University received \$1 million from the Howard Hughes Medical Institute to continue the university's support of underrepresented students in science, technology, engineering, or mathematics (STEM) majors.

Building off of the momentum and accomplishments of the above HSI Stem and HHMI grants, HSU received funding from the U.S. Department of Agriculture's HSI program for the iÉchale Ganas! grant. The purpose of this grant is to enable HSU to better serve Latinx students in natural resource sciences, and help students obtain extra-curricular experiential learning opportunities to advance their careers. In particular, this work aims to engage natural resource students at the nexus of agriculture and natural resource conservation.

In 2018, HSU's School of Education was awarded a \$2.7 million grant by the U.S. Department of Education's Developing HSI program. HSU will receive the grant award over five academic years, 2018-2023. At its core, this grant aims to increase the academic success (achievement, retention, persistence, and graduation) of Hispanic and/or low-income students; increase the number of culturally responsive, diverse teaching credential candidates; and build HSU's capacity to train, model, and produce educators who emphasize culturally sustainable pedagogies in and beyond the classroom. As part of this grant, the student learning community, Creando Raíces, was created.

### » HSI Thriving and Cultural Wealth Model

Humboldt State University achieved its designation as an HSI in 2014. Since then we have hosted various events and forums engaging the question of what it means to be an HSI. On one occasion we invited Dr. Gina Garcia, a prominent scholar on the subject of HSIs. During her visit we were introduced to her “Typology of Hispanic Serving Institution Organizational Identities.” At the time, we identified that our campus fell into the lower left quadrant of the typology Latinx-Enrolling. Since then we have moved to the bottom right, Latinx Enhancing, while making progress toward the top right Latinx-Serving.

## COMMUNITY-BASED LEARNING

Community-based learning experiences (Service Learning, Academic Internships, Teacher Education, Social Work Practicum, and Clinical Placements for Kinesiology, Nursing, Psychology, and Pre-medical Observations) are proven high-impact practices that increase a sense of belonging, efficacy, and agency among students and contribute to closing the achievement gap among minoritized students.

More than 80% of HSU's majors offer one or more community-based learning courses. On average, 1,400 students a year serve approximately 180,000 hours of service. HSU has more than 400 approved community partners, including a number of tribal entities. More than 50 faculty from across all three colleges teach community-based learning courses every semester. HSU adds approximately five to six new community-based learning courses every year.

Academic Internships focus on developing students' professional self and the ability to be successful in their chosen field by applying coursework in real-world experiences. The Learning Outcomes for Academic Internships include: 1) Ability to Navigate the Profession; 2) Understanding of Professional Self; 3) Application of Curriculum; 4) Interaction with Community; and 5) Personal growth.

Service Learning focuses on developing students as change agents to address community needs and understand their impact on the world. There is a reciprocal relationship in that all parties benefit from the experience. Students gain hands-on experience and reflection is integral to their learning. The Learning Outcomes for Service Learning include: 1) Application of Curriculum; 2) Social/Environmental Justice; 3) Understanding of Professional Self; 4) Interaction with Community; and 5) Personal growth.

CCBL is leading the development of the Curricular Community Engaged Learning (CCEL) attribute. CCEL is a new designation currently being implemented by the CSU system to better capture the spectrum of coursework involving community partnerships. For example, HSU will be able to identify when a math class works on a modeling project for the local harbor district to provide data on tidal waters without other aspects of Service Learning or Academic Internships present.

HSU is a member campus of California Campus Compact (part of the national Campus Compact), which builds the collective commitment and capacity of colleges, universities, and communities throughout California to advance civic and community engagement and provides support and resources such as conferences, training opportunities, and materials to the constituents involved in these practices. CCBL staff are active in this organization and are currently receiving, and teaching, their community engagement micro-credentials.

CCBL has finalized a JEDI (Justice, Equity, Diversity, Inclusion) four year strategic plan, and infused strengths based approaches using Yosso's Cultural Wealth model to ground CCBL practices. CCBL staff have actively added inclusive language to training materials, risk management documents including student placement and HSU/ Partner Agreement paperwork, the CCBL website, and at in-person constituent gatherings to address equity issues.

HSU's clinical programs (including Pre-med, Nursing, Clinical Psychology, and Kinesiology) are integral to our region's ability to provide quality medical services to our local residents. HSU has created partnerships with our local hospitals, clinics, medical providers, the Humboldt-Del Norte Medical Society, local tribal medical centers, and local providers in a variety of areas. HSU students gain hands-on experience in the medical fields of interest in a rural setting with direct connection to the medical professionals with whom they serve.

Humboldt County is the home of 32 school districts representing more than 70 schools in the K-12 system. HSU's School of Education, and other majors preparing students for positions as educators and paraprofessionals, boasts a strong relationship with the Humboldt County Office of Education as well as those of other surrounding counties. Every year, 160 students participate in student teaching while a number of other courses involve students in creating curriculum, supporting activities, and delivering services to local classrooms throughout the region.

Our region is a high need region for youth and family services. HSU's Departments of Social Work and Psychology, and majors in the Critical Disciplines and Social Sciences, have strong ties to county services, tribal organizations, nonprofit service providers, and offer students hundreds of placements throughout the region every semester. Key partnerships include the County of Humboldt, local tribal services, our network of family resource centers, the Northern California Association of nonprofits, and the Humboldt Area Foundation.

HSU is uniquely positioned within and in proximity to local community forests, state and national parks, and our local bay and coastal waters. Our departments of Forestry, Wildlife, Fisheries, Wildlife, Biology, Environmental Sciences, Engineering, Oceanography, and Marine Biology have strong partnerships with a number of federal, state, and local government offices and many local land trusts and nonprofit organizations to provide for internships in research, land management, agriculture, fisheries, environmental planning, fire prevention and mitigation, and a number of discipline-specific opportunities. Key partners include the USDA, USFS, CDF, Coastal Commission, Bureau of Land Management, Arcata Community Forest, and local tribal entities.

Humboldt County has one of the highest per capita of artists in a region throughout the state. Our Arts and Humanities programs have strong ties with local museums, galleries, new outlets, K-12 programs, theaters, film commissions, and producers. Students assist in the production, teaching, and promotion of the arts in hands-on grassroots programs that give them dynamic experiences and interaction with professionals in their fields of interest.

## **STUDENT ENGAGEMENT AND LEADERSHIP DEVELOPMENT IN A COMPREHENSIVE POLYTECHNIC UNIVERSITY**

Extensive student leadership and engagement opportunities exist within academic departments and co-curricular units. HSU offers a total of 170 student clubs and organizations, many of which reside within academic departments and offer leadership experiences. The following examples of co-curricular organizations offer numerous opportunities, including paid positions, and/or offer academic credit:

- **Associated Students** HSU's student government includes 18 board members and 10 committees, each comprising multiple student positions which provide leadership and advocacy for the greater student body.
- **Social Justice, Equity & Inclusion Center (JCEIC)** A student-led organization that fosters acceptance and respect for all, the JCEIC is committed to retention and student success through leadership development, social justice advocacy, identity exploration, and cross-cultural learning experiences.
- **Youth Educational Services** Home to over a dozen student-led community engagement programs that provide opportunities for HSU students to volunteer in local school and community sites.
- **Humboldt Ambassadors** (Orientation, Campus Visits, Campus Events) A cadre of student volunteers and student employees who provide human power and connection to a wide variety of new student programs, tours, outreach, and alumni events.
- **Retention through Academic Mentoring Program (RAMP)** A stand alone, stateside funded program which hires approximately 60 student leaders each year to support either first-time freshmen (First Year-RAMP) or second year and beyond students (Major Based Peer Mentoring-RAMP) in the transition to and engagement with HSU experiential opportunities; specifically supporting journeys in dealing with stereotype threat and imposter syndrome related to all disciplines and specifically STEM.
- **Tutoring and SI Leader Development** Tutors and other Instructional Student Assistants (ISAs) who have the benefit of practicing and strengthening academic material while supporting their peers, gaining and practicing transferable skills on the job.
- **Society for Advancement of Hispanics/Chicanos and Native Americans in Science (SACNAS)** An inclusive organization dedicated to fostering the success of Hispanic/Chicano and Native American scientists—from college students to professionals—in attaining advanced degrees, careers, and positions of leadership in STEM.

- **Diverse Male Scholar Initiative** An initiative designed to cultivate a safe community for self-identified male students of color.
- **Food Sovereignty Lab and Cultural Workshop Space** An interdisciplinary, collaborative effort, strengthening the bond with our local community, Indigenous Nations, and HSU students. A first-of-its-kind in the CSU, the lab teaches how and why relationships to food sources and systems are fundamental to the existence of people and nature.

## University Financial Outlook and Polytechnic Financial Pro Forma

Humboldt State University has made significant strides in addressing various challenges related to its budget and in righting itself from decades of structural budget deficits. As we enter the 2021-2022 academic year, we have a balanced budget in place, and we are proud of having addressed a structural budget deficit of \$20 million in less than three years. We recognize the importance of remaining disciplined in this area and of budgeting for items including initiatives, facilities, and unexpected expenses.

At the same time, we are committed to pursuing opportunities to diversify our revenue and bring additional resources to campus. This will be especially important for the polytechnic effort, given the high cost of many anticipated programs, the additional costs related to providing a hands-on focused education, and the desire to provide substantial financial support to a growing student body. As with the other polytechnic institutions in the CSU, non-state revenue will be vital in helping us thrive into the future.

Efforts to diversify revenue include revamping campus processes and guidelines, encouraging entrepreneurial thinking across campus units, expanding engagement with industry and local communities, seeking corporate support for new and expanded programs, and committing new resources and staffing to support the work. The strategies being pursued vary widely, with some at beginning phases while others are well underway and showing strong promise.

In research and contracts, our Sponsored Programs Foundation has increased grant and contract activity by 81% since 2015 and anticipates annual growth of more than 5% continuing into the future. In the most recent year, grant activity reached about \$30 million. To expand capacity to support research, investments will be made to replace and upgrade research lab spaces as well as to increase personnel support for pre-award and grant development activities. Philanthropic support is growing and we are exceeding revenue targets in the silent phase of a robust comprehensive campaign. The most recent year saw charitable support reach nearly \$9.5 million, which is the most ever raised by the campus and nearly double the average over the last five years. Just six months into the quiet phase of our first-ever comprehensive fundraising campaign, we have reached 50% of what was initially seen as an aspirational goal, and our volunteer leaders are encouraging us to raise our sights. With the campaign underway, new campus naming opportunities have been established at various levels, with options available to name various spaces and facilities including those that are newly funded by the state. To support this work, over the last two years University Advancement has reduced support costs and tripled the number of major gift officers. It has also added an executive director of special initiatives along with two grant strategists to better leverage donor cultivation and grant-seeking efforts. Additional new gift officer positions are envisioned, as are additional staff to support communications with key external and internal constituencies.

The expanded research grant and philanthropic revenue has yet to be fully incorporated into our campus budgeting, but it is clear that this infusion of resources will provide significant support to the campus. Integrating the grant revenue capital campaign financial planning projections into campus budget planning efforts is a priority in the coming months.

To further support University goals, the HSU Foundation and HSU Real Estate Holdings have aggressively pursued acquisition of strategic properties. They have acquired buildable acreage near campus suitable for housing or academic facilities as well as a building on the Arcata Plaza that will be the new home of the campus bookstore. These acquisitions open up possibilities for third-party partnerships, community outreach, and expanded revenue from sales of branded merchandise.

Other important work related to alternative revenue includes pursuing corporate partnership opportunities identified in the recent report provided by the CSU consultant; the recent licensing agreement for campus marks along with a corresponding agreement within Intercollegiate Athletics & Recreational Sports; the possibility of an investment fund for promising business ideas of faculty and staff; support for efforts within academic programs to generate revenue related to their areas of expertise; exploration of enhanced revenue through dining and related services on campus; and creation of the new Conference & Events Services office to provide centralized services to on-campus and off-campus organizations.

The 2021-2022 California budget included an incredible investment in Humboldt State, allocating \$433 million of one-time funding and \$25 million in ongoing funding to support capital projects and academic program investments to support our transition to becoming the CSU's third polytechnic university. This funding exists thanks in large part to what Chancellor Castro learned during his virtual visit in April 2021 to HSU, Governor Newsom, and to the many faculty, staff, students, and community members who advocated on HSU's behalf throughout the spring. With this infusion of state support, Humboldt State University can immediately launch at least 10 new academic programs (bachelor's, master's, and/or certificates) by 2023, increase broad student support services, and house and provide basic needs for our students. Specifically the funding would support:

- **New Fast Track Academic Programs (Ongoing)**

As Humboldt State launches an in-depth self-study to become the state's third polytechnic university, we are identifying new academic programs by aligning regional and state workforce development data with our existing academic strengths, the richness of our natural and cultural environments, the needs of our student body, the issues facing California, and the distribution of academic program offerings and impact across the CSU. This analysis is resulting in emphasis on the following four areas for new/expanded academic offerings.

- **Technology and Telecommunications (One-time)**

Working in conjunction with the Corporation for Education Network Initiatives in California (CENIC), HSU is seeking a 15-year indefeasible right of use (IRU) for capacity to increase access to high speed internet for our campus, surrounding areas, and students living locally in order to achieve the goals set out in Gov. Newsom's [Executive Order N-73-20](#); To achieve our polytechnic status, HSU also needs to expand research computing support and modernize and expand computer capacities to ensure students, faculty, and staff have access to workplace ready tools needed to achieve success in their education and learn technologies they will use in their careers.

- **Housing (One-time)**

Funding will support the expansion and quality of the residential experience at HSU toward our goal of 3,000 residential campus beds and 3,000 off-campus beds. Our current residential spaces are aged and heavy in deferred maintenance. Greater student demand for residential housing, which will generate new revenue, is attainable through creation of newer housing facilities that complement HSU's Place-Based Learning Communities, increase retention, and address basic needs and student support. Additional housing is a critical need in the region to avoid significant impacts on the local housing market which presents a significant barrier to enrollment growth due to limited student-centric options and unreasonable pricing models that are retrograde to affordability. In particular, a recent external review of our off-campus housing market described the market "Student Adverse" which compels HSU to expand student housing options that prioritize the pending enrollment growth following the transition to a polytechnic university. Our local communities of Arcata and Eureka are actively working and adopting land use planning that supports high-density housing infill projects.

- **Mixed Use Space for Housing, Academic Instruction, and the Support of Students' Success. (One-time)**

A key component to HSU's infrastructure to support the current and future needs of our science, engineering, and technology programs are strategic investments in new and existing polytechnic facilities. The historical state investment in capital infrastructure allows HSU to make significant strides to this end. The funding will support several innovative projects including a new science facility, already prioritized in the CSU capital outlay plan, which the university believes is the most critical component to the success of our future as a polytechnic. It will enable HSU to provide students with access to learning in state-of-the-

art instructional facilities, enhance our learning experience, and overall recruitment efforts. In addition, the infusion of one-time resources will be instrumental in modernizing existing instructional space needed to support the existing, growing, and future demand for laboratory space to support instruction and research. The university is limited in growth opportunities in its existing acreage. Strategic investment in additional property will benefit our local economy and student housing access.

The funding from the state allows for HSU to be a true triple threat by addressing impaction at other CSU's, building programs in alignment with statewide workforce gaps, and stimulating the North Coast economy. With one-time and ongoing support from the state, HSU can increase enrollment by 50% in three years and double enrollment within seven years.

## HSU'S BUDGET PICTURE

Next is a comprehensive look into HSU's current budget picture including information about the university operating fund, sources of funding, tuition and expenses, etc.

### ► University Operating Fund

The University Operating Fund is the primary operating budget for the university. The following three-year budget summary demonstrates HSU's significant progress to align spending with available resources.

Sources of Funding	2019-2020	2020-2021	2021-2022
<b>State Appropriation</b>	90,719,910	85,580,000	90,475,000
<b>Higher Education Fees</b>	40,990,803	34,360,803	33,429,303
<b>Misc. Revenue &amp; Cost Recovery</b>	8,588,546	8,751,652	9,733,501
<b>Total Sources of Funding</b>	<b>140,299,259</b>	<b>128,692,455</b>	<b>133,637,804</b>
Expenditures	2019-2020	2020-2021	2021-2022
<b>Salaries &amp; Benefits</b>	114,215,973	109,421,845	101,861,144
<b>Financial Aid</b>	13,348,930	12,697,947	12,089,187
<b>Operating Expenses</b>	15,659,356	15,554,435	18,762,455*
<b>Total Expenditures</b>	<b>143,224,259</b>	<b>137,674,227</b>	<b>132,712,786</b>
<b>Base Budget Surplus / (Deficit)</b>	(2,925,000)	(8,981,772)	925,018

\*2021-2022 Expenditure Budget Operating Expenses higher due to timing, primarily related to CSU Budget Memo pending allocations for GI 2025 and Ethnic Studies

### ► Sources of Funding

HSU's primary funding sources are state appropriation and student tuition and fees. In 2020-21, HSU's Operating Fund, the primary operating fund of the university, had a Revenue Budget of \$128.7 million. HSU's budgeted state appropriation is \$85.6 million (66% of the Operating Fund Budget) and tuition and fees are \$34.4 million (27% of the budget), with the remaining 7% of the budget made up of miscellaneous revenue and cost recovery ([see OpenBook revenue dashboard](#)).

#### ▪ State Funding

HSU's state appropriation is based on a CSU enrollment target of 7,603 resident FTES. HSU's current 2020-21 enrollment is only 5,296 following several years of enrollment declines, an under-enrollment of 30%. Given current funding levels, in combination with the new state funding, HSU has considerable resources to accelerate its polytechnic transformation and invest heavily in an aggressive recruitment and outreach initiative to expedite growth and exceed its funded enrollment target by 2025.

- Tuition and Fees**

HSU's full-time annual resident undergrad tuition is \$5,742. In addition, HSU's annual campus mandatory fees are \$2,117, plus a \$5 ID card fee. In total, students pay \$7,864 annually to attend HSU. HSU currently is tied with Chico for the 3rd highest fees in the CSU system, behind only Cal Poly SLO (\$10,071) and Sonoma (\$7,952). HSU has no planned fee increases in 2021-22. Note: graduate and credential students pay higher tuition rates, as do non-resident and WUE students. For the pro forma, tuition and fees are conservatively estimated based on resident students at current fee rates.

- Expenditures**

- Salaries and Benefits**

Personnel costs represent the vast majority of HSU's spending, totaling \$109 million and 79% of the 2020-21 Budget ([see OpenBook expenditure dashboard](#)). In total, HSU's Operating Fund has 925 budgeted FTE positions, comprised of:

Employee Type	Budgeted FTE
<b>Academic Faculty</b>	316
<b>Non-Academic Faculty*</b>	21
<b>Staff</b>	522
<b>Administrators</b>	66
<b>Total Budgeted FTE Positions</b>	<b>925</b>

*\*Non-Academic Faculty include Librarians, Coaches, and Counselors*

Over the past two years, HSU has reduced budgeted FTE positions through attrition by about 130 FTE, given reduced enrollment, to better align spending with available resources.

- Financial Aid**

Financial aid comprises almost 9% of HSU's Budget, totaling nearly \$13 million in 2020-21. This aid is invested directly in student financial aid, primarily via the State University Grant (SUG), and the campus does not have discretion over SUG allocation amounts, which are set by the Chancellor's Office.

- Operating Expenses**

Operating expenses, ranging from utilities and equipment to travel and professional development, comprise the remaining 12% of the budget. For the academic colleges, close to 95% of the budget is spent on personnel, leaving an even smaller percentage of the budget available to support operating expenses within the academic programs.

- Self-Support Entities and Auxiliaries**

While HSU's Operating Fund is the university's primary operating budget, HSU's self-support entities and auxiliary organizations are an integral part of the university and bring in over \$70 million annually.

## FINANCIAL PRO FORMA

With the infusion of funding from the state, the financial pro forma has been accelerated to a seven-year polytechnic implementation plan (initially 15 years) which is necessary to scale up capacity in new programs, services, and facilities. The pro forma portrays the budget from an Operating Fund focused lens to understand the more direct state/tuition planning impacts and we are also developing an all funds view to understand the comprehensive impact to the university. In addition to the seven-year pro forma reflecting enrollment doubling in seven years, we have also established projections where we double in four years (faster) and double in ten years (slower) to understand capacity and scaling impacts at differential speeds of growth so we are proactively prepared for a variety of scenarios.



## ► Faculty, Staff, Programming, Equipment Needs

### ▪ Ongoing Costs

New program capacity will be determined by evaluating existing facilities, programs, and program support structures. Annual student faculty ratio and FTES targets will allow for estimated faculty needs and the projection of annual program tenure track and temporary faculty costs based on planned growth over time. Curricular development will consider aspects associated with service and support course delivery ensuring appropriate funding will be available for existing programs to expand as necessary in parallel with new programs. With the infusion of state funding, the \$25 million investment in academic programs can go toward immediately standing up at least 10 additional academic programs and the ongoing associated costs of accreditation, faculty, staff, graduate and student assistants, start-up costs, and equipment. Exact number of additional faculty to maintain needed teaching capacity and staff to provide technical and administrative support is still being determined; however, our initial planning estimates for personnel and expenditures are reflected in the Total New Programs Ongoing Expenditure Projection table below as a starting point. Operating expenses needed for degree programs are estimated on a per FTES cost basis in alignment with similar existing department spending trends. Equipment needs will warrant further planning to ensure sufficient resources are in place to support the unique nature of each program.

### Total New Programs Ongoing Seven-Year Expenditures Projection

New Program Personnel FTE	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
<b>DC/TT Faculty - Mid-Range</b>	2.0	12.0	12.0	12.0	21.0	21.0	21.0	26.0
<b>TT Faculty - Beg Range</b>	-	-	16.0	36.0	38.0	41.0	49.0	52.0
<b>Lecturer</b>	-	-	2.0	4.0	6.0	11.5	20.4	25.5
<b>Support Technician</b>	1.0	8.0	10.0	10.0	14.0	18.0	18.0	20.0
<b>Admin Support</b>	2.0	4.0	10.0	10.0	14.0	18.0	18.0	20.0
<b>Total Personnel FTE</b>	<b>5.00</b>	<b>24.00</b>	<b>50.00</b>	<b>72.00</b>	<b>93.00</b>	<b>109.48</b>	<b>126.44</b>	<b>143.50</b>
<b>SFR</b>		-	14	15	17	22	22	22
<b>Tenure Density</b>		100%	93%	92%	91%	84%	77%	75%
New Program Expenditures	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
<b>Faculty Salaries</b>	200,000	1,504,000	3,198,000	5,347,000	6,808,000	7,604,000	9,181,000	10,614,000
<b>Staff Salaries</b>	140,000	588,000	963,000	981,000	1,399,000	1,831,000	1,863,000	2,106,000
<b>Benefits</b>	210,000	1,187,000	2,422,000	3,620,000	4,757,000	5,521,000	6,381,000	7,349,000
<b>Operating Expenses</b>	-	-	616,000	758,000	893,000	1,599,000	1,746,000	1,861,000
<b>Total New Program Expenditures</b>	<b>550,000</b>	<b>3,279,000</b>	<b>7,199,000</b>	<b>10,706,000</b>	<b>13,857,000</b>	<b>16,555,000</b>	<b>19,171,000</b>	<b>21,930,000</b>
<b>Cost per FTES</b>			17,339	13,894	12,502	10,239	9,636	9,631

In addition, planning is actively underway to project out additional staffing and operating expenses aimed at inclusive student success that will be needed to support the broader campus scale-up to ensure we implement a holistic approach to institutional transformation. Additional details and planning considerations are provided in the *Managing Enrollment Growth in Student Services* section. While this is still a work in progress, the Operating Fund Seven-Year Projection table below reflects a preliminary, yet more comprehensive, planning projection incorporating both revenue and expenditures, as well as existing program growth and support costs associated with doubling enrollment in seven years. In addition to the \$25 million from the state, significant additional tuition revenue will be generated as enrollment growth is realized to help support the broader scale up. Current projections anticipate the likelihood of budget deficits beginning in 2026-27, once enrollment surpasses HSU's CSU funded FTES target. This highlights the need for additional long-term planning and collaboration with the Chancellor's Office, utilization of additional tuition to fund growth, and reliance on our capital campaign to proactively navigate significant growth and maintain a positive financial situation into the future.

## Operating Fund Seven-Year Projection

Sources of Funding	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
<b>State Tuition Fees</b>		1,566,000	6,824,000	12,089,000	17,186,000	21,105,000	24,320,000	26,704,000
<b>Student Fees (MSF)</b>			2,236,000	2,582,000	2,916,000	3,174,000	3,385,000	3,542,000
<b>State Base Allocation</b>	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000
<b>Total Base Sources of Funding</b>	<b>25,000,000</b>	<b>26,566,000</b>	<b>34,060,000</b>	<b>39,671,000</b>	<b>45,102,000</b>	<b>49,279,000</b>	<b>52,705,000</b>	<b>55,246,000</b>
Ongoing Expenditure Budget	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
<b>New Academic Programs Buildout</b>	2,400,000	6,674,000	10,764,000	14,271,000	17,542,000	20,240,000	22,856,000	25,735,000
<b>Existing Programs Buildout</b>	-	670,000	4,686,000	7,677,000	11,092,000	12,750,000	14,435,000	15,750,000
<b>Student Recruitment and Retention</b>	435,000	2,860,000	3,600,000	4,345,000	5,105,000	5,500,000	5,920,000	6,325,000
<b>Communications, Marketing, and Branding</b>	45,000	90,000	170,000	290,000	290,000	410,000	410,000	410,000
<b>Infrastructure and Operations</b>	153,000	305,000	505,000	805,000	3,120,000	3,420,000	3,720,000	3,920,000
<b>Financial Aid / Scholarships</b>			2,000,000	4,000,000	6,000,000	8,000,000	8,500,000	8,900,000
<b>5% Buffer for Unplanned Needs</b>		530,000	986,000	1,369,000	1,857,000	2,116,000	2,367,000	2,607,000
<b>Total Ongoing Expenditures</b>	<b>3,033,000</b>	<b>11,129,000</b>	<b>22,711,000</b>	<b>32,757,000</b>	<b>45,006,000</b>	<b>52,436,000</b>	<b>58,208,000</b>	<b>63,647,000</b>
<b>Ongoing Budget Surplus / (Deficit)</b>	21,967,000	15,437,000	11,349,000	6,914,000	96,000	(3,157,000)	(5,503,000)	(8,401,000)

Specific to the \$25 million in funding from the state, we developed a plan to expend both ongoing and one-time investments by 2026-2027 to accelerate our polytechnic transformation as reflected in the Polytech Transition—\$25M Summary table. 2021-22 (Year 1) reflects initial ongoing investments to establish a strong foundation for polytechnic success in areas such as faculty, information technology, online learning, student recruitment, and marketing to ensure that we have the institutional capacity and expertise to support the polytechnic transformation. In 2022-23, ongoing new program costs ramp up, including the first round of faculty hiring, ahead of fall 2023 program launches.

Initially, the \$25 million will largely be leveraged for one-time spending initiatives as part of our polytechnic transition. Considerable one-time investments are needed to support faculty and program start up costs, establish a new campus master plan, rebrand and market the campus, invest in student recruitment and outreach, program development and curricular design, recruit and hire new faculty, and to modernize equipment and campus spaces/labs for our existing programs to support a broad transformation beyond just our new programs.

### Polytech Transition —\$25M Summary *Initial Planning Estimate*

Ongoing Expenditure Budget	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
<b>Academic Programs Buildout</b>	2,400,000	6,674,000	10,764,000	14,271,000	17,542,000	20,240,000
<b>Student Recruitment and Retention</b>	395,000	1,400,000	1,660,000	1,740,000	2,020,000	2,150,000
<b>Communications, Marketing, and Branding</b>	45,000	90,000	90,000	90,000	90,000	90,000
<b>Infrastructure</b>	153,000	305,000	305,000	305,000	2,520,000	2,520,000
<b>Total Ongoing Expenditures</b>	<b>2,993,000</b>	<b>8,469,000</b>	<b>12,819,000</b>	<b>16,406,000</b>	<b>22,172,000</b>	<b>25,000,000</b>

## Polytech Transition —\$25M Summary (Continued)

One-Time Expenditures	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
<b>Academic Programs Buildout</b>						
New Program Faculty Start Up Costs	-	1,200,000	1,600,000	2,500,000	1,300,000	300,000
New Program Start Up Costs	-	675,000	1,125,000	450,000	750,000	1,250,000
Program Development and Curricular Design	900,000	400,000	300,000	500,000	400,000	300,000
Faculty and Staff Recruitment	300,000	660,000	700,000	370,000	337,000	239,000
<b>Student Recruitment and Outreach</b>	500,000	500,000	500,000	300,000	300,000	
<b>Communications, Marketing, and Branding</b>						
Rebranding/Marketing/Ad Campaign	1,300,000	1,000,000	1,000,000	800,000	500,000	200,000
Rebranding - Campus Signage	655,000	983,000				
<b>Infrastructure Projects</b>						
Campus Master Plan	1,000,000	1,000,000				
Academic Program Lab/Space Renovations	2,000,000	6,000,000	7,000,000	7,000,000	4,000,000	2,047,000
Equipment Modernization	3,000,000	3,000,000	1,000,000			
<b>Total One-Time Costs</b>	<b>9,655,000</b>	<b>15,418,000</b>	<b>13,225,000</b>	<b>11,920,000</b>	<b>7,587,000</b>	<b>4,336,000</b>
<b>Annual Total Expenditures</b>	12,648,000	23,887,000	26,044,000	28,326,000	29,759,000	29,336,000
<b>Annual Surplus/(Shortfall)</b>	12,352,000	1,113,000	(1,044,000)	(3,326,000)	(4,759,000)	(4,336,000)
<b>\$25M Cumulative Remaining Balance</b>	12,352,000	13,465,000	12,421,000	9,095,000	4,336,000	-

### ► Facility and Infrastructure Needs

A key component to HSU's infrastructure to support the current and future needs of our science, engineering and technology programs are strategic investments into new and existing facilities. Currently, HSU's science facility is prioritized in the CSU capital outlay plan. The university believes this facility is the most critical component to the success of our future as a polytechnic institution. It will enable HSU to provide state of the art instructional facilities, enhance our learning experience, and overall recruitment efforts. In addition, the infusion of one-time resources will be instrumental in modernizing existing instructional space needed to support the existing, growing, and future demand for laboratory space to support instructional delivery and research. Regarding capacity, the university is limited in growth opportunities in its existing acreage. Strategic investment in additional property will benefit our local economy and improve student housing access. The significant support received from the state is instrumental in enabling the university to make significant strides in prioritizing investment in facility and infrastructure needs for HSU to successfully grow into a thriving polytechnic campus.

Additionally, limited existing housing for students, faculty, and staff and the projected growth that HSU and the community will experience as we transition to a polytechnic will require us to prioritize housing infrastructure projects. Humboldt County is currently the 17th hottest real estate market in the nation and our unique location between redwood forests and the Pacific Ocean make us an ideal location to live and learn but poses additional housing hurdles. HSU's commitment to being a future-focused 21st century polytechnic has led us to explore mixed use infrastructure development projects. Mixed-use for our purposes is defined as a project with planned integration of some combination of academic space, housing, student support services, retail, office, recreation, or other functions. It is pedestrian-oriented and contains elements of a live-work-play environment.

Investment in critical infrastructure is an engine for access and growth for HSU and Northern California. With one time and ongoing support from the state, HSU can increase enrollment by 50% in three years and double enrollment within seven years. Initial prioritized facility and lab space needs:

- **Mixed Use Engineering & Technology Building + Housing: \$150 Million Total**

This project is uniquely located at a key campus gateway and will significantly improve the campus entry sequence and sense of place. The building will be an anchor in the heart of our science complex and can be the physical representation of our polytechnic university. The building will have a dramatic impact on our campus academics and the recruitment and retention of students and faculty. This project will construct a 58,500 ASF/90,000 GSF adaptive laboratory and instruction building with student life and academic integration as a core program. Additionally, this project will build adjacent housing totaling 400 beds creating a learning community embedded in our STEM core location. The development will also enable relocation of academic programs in the growth years to allow for the renewal and renovation of the existing science complex. The Science Complex Renovation will reinvest in our existing buildings with contemporary building systems, research labs, teaching labs, and instruction spaces creating opportunity for purpose built spaces to support our emerging programs. The Engineering & Technology Building will include capacity for over 400 FTE in classrooms and teaching labs as well as complex research space and faculty offices. HSU needs science teaching facilities that meet modern laboratory needs and support the expansion of graduate and undergraduate research opportunities.

- **Science Complex Renovation (Science A, C and D): \$36.3 Million**

This project will renovate the existing Science A, C, and D buildings. The existing buildings have over \$47 million in immediate need for deferred maintenance and critical projects, and building systems are beyond their useful life. This project will upgrade accessibility, energy efficiency, and fire/life safety and renovate laboratories, lecture, faculty offices, and research space to support the expanding and changing science complex program. These improvements will bring many of our core academic facilities up to contemporary standards. The projects will help support growth and strategic movement/relocation of programs and departments. This strategy will reinvest in our existing science assets and enable our funding to go further across various buildings supporting numerous programs.

- **Lab Space Renovations: Value of investment may vary significantly**

Developing and renovating lab spaces will be critical to the success of new programs to ensure we have modernized facilities with the capacity to meet the needs of our students and faculty. As a component of our ongoing funding of \$25 million, the university will prioritize growth years spending to support strategic growth and investment with new and existing programs. The funding will renovate lab spaces to meet programmatic and research needs in combination with the availability of existing space to be creatively repurposed versus needing to develop new space.

**Note:** In addition to polytechnic specific infrastructure needs, there are existing campus infrastructure needs, such as a replacement Art building for ceramics and sculpture, that will need to be prioritized to ensure we are meeting the needs of our students and faculty across all majors and disciplines.

- **Applied Research and Climate Resilience: \$45 Million**

This project supports focused research initiatives that catapult the university to becoming leaders in microgrid technology, offshore wind studies, and ocean-going research. The project will invest \$6 million in Coral Sea renovations and equipment to support adaptive research across disciplines. The project will also construct and equip a \$28 million (20,000 GSF), campus building dedicated to microgrid research and climate resilient technology and education. The facility will be supported by the Schatz Energy Research Center, academic program integration, and the Office of Sustainability. Additionally, the project will build an \$11 million (10,000 GSF) building on the Eureka Bayfront supporting offshore wind and Coral Sea research.

- **Residence Halls, Dining, Student Support Services**

As noted above as enrollment grows, residence halls, dining facilities, and student support services will need to be expanded to meet the diverse needs of our students. Additional housing is a critical need in the region to avoid significant impacts on the local housing market which presents a significant barrier to enrollment growth due to limited student-centric options and unreasonable pricing models that are retrograde to affordability. In particular, a recent external review of our off-campus housing market described the market “Student Adverse” which compels HSU to expand student housing options that prioritize the pending enrollment growth following the transition to a polytechnic university. As our university grows, access to affordable and programmed housing will be critical to our rural area. HSU has an ambitious housing goal to expand our inventory to 6,000 beds between on-campus and off-campus.

- » **Mixed Use On-Campus Student Housing, Health Center, Dining Facility: \$145 Million**

In addition to the new housing planned with the engineering and technology building, this project will construct a residential housing complex of approximately 750 beds, a health and counseling center, and dining facility. It will support the expansion and quality of the residential experience at HSU. Our current residential spaces are aged and heavy in deferred maintenance. Greater student demand for residential housing is attainable through creation of newer housing facilities that complement HSU’s Place-Based Learning Communities, increase retention, and address basic needs and student support. This project is the first of its kind in the CSU in addressing basic needs. The investment will include health and wellness, food security, and dining services, and housing access in a single build.

Student demand for mental health and counseling support has grown exponentially at HSU over the last three years, with requests for support nearly doubling in the last year. Concurrently, so have demands for campus medical care, emergent adversity needs, and referrals for resource support. Robust growth of the Student Health & Counseling Center will support increased student demand and mitigate the lack of insurance coverage and access to healthcare in this rural area for students from Southern California, in particular, students who are covered by Kaiser Permanente, which is not accepted by medical and counseling practices on the North Coast. Further exacerbating our students’ need for assistance with basic needs, over 1,000 students were referred or opted in for help from the Campus Assistance, Response, and Engagement (CARE) Services team this year. The primary cases for students overcoming extenuating circumstances include homelessness, mental health concerns, emergencies, food insecurity, and other basic needs referrals. CARE Services also provided a total of 523 nights of on-campus stay to students facing homelessness or housing insecurity through HSU’s Temporary Emergency Housing program.

- » **Mixed Use Off-Campus Housing at Craftsman Mall: \$100 Million**

Located within a mile of campus, the project will construct a four building complex consisting of 200 beds each connected by courtyard and surrounded with parking and other intermodal support. The project will resemble prior planning for infill housing at the site. The complex will also include other common program space such as study areas, a small convenience store, and an open common area for gathering and meeting spaces. The university will partner with the City of Arcata to create pedestrian thoroughfares and appropriate integration with the residential and commercial community in which the build will be located.

# Managing Enrollment Growth and Equity in Access

Embedded within the core practices of HSU's Division of Enrollment Management (EM) is the commitment to diversity, inclusion, and student success. These values were expressed in the recent [EM Annual Report, 2019-20](#):

"Just as HSU's faculty are invested in student success and learning, the Enrollment Management team at HSU is invested in the success of every student as an individual who is free to learn. We honor and respect that we are located on tribal land. We embrace students of all identities and traditions, all backgrounds, nations, faiths, and ethnicities. We recognize and believe that each student as a person and their identities add value to life on campus. We embrace and commit to working for social justice in classrooms, residence halls, on the quad, and in all spaces of our community," (Vice President Meriwether).

This commitment to equity and inclusion for all students will also guide the university as the Division of Enrollment Management builds infrastructure to support enrollment growth in alignment with the HSU Academic Roadmap and polytechnic self-study results. Demographic benchmarks, opportunities for improved equity, and comparison data are detailed below.

## PLANNED GROWTH

Humboldt State University has articulated a clear path forward to meet California State University's funded target of 7,603 Annual Resident FTES through our updated Enrollment Management Plan. The keystone for this plan is our proposed polytechnic status and the new academic programs that support that proposal. Humboldt State University is ready to become the third polytechnic campus in the California State University system.

Predicting a doubling of enrollment growth within seven years, expected fall headcount will increase from 5,562 students (Fall 2021) to 11,007 students (Fall 2028). We plan on reaching our target Annual Resident FTES in the 2025-2026 academic year as shown in the lower section of the Headcount and FTES Projections table.

Headcount and FTES Projections																
Fall Headcount	Fall 15	Fall 16	Fall 17	Fall 18	Fall 19	Fall 20	Fall 21	Fall 22	Fall 23	Fall 24	Fall 25	Fall 26	Fall 27	Fall 28	Fall 29	Fall 30
<b>New 2023</b>							0	0	460	856	1,232	1,528	1,711	1,814	1,850	1,873
<b>New 2026</b>												270	502	719	886	977
<b>New 2029</b>															250	465
<b>STEM+</b>	5,096	4,993	4,909	4,594	4,188	3,910	3,394	3,598	4,029	4,513	4,964	5,113	5,266	5,372	5,479	5,589
<b>Non-STEM</b>	3,694	3,510	3,438	3,180	2,795	2,521	2,168	2,276	2,459	2,655	2,868	2,954	3,042	3,103	3,165	3,229
<b>Total</b>	<b>8,790</b>	<b>8,503</b>	<b>8,347</b>	<b>7,774</b>	<b>6,983</b>	<b>6,431</b>	<b>5,562</b>	<b>5,874</b>	<b>6,948</b>	<b>8,024</b>	<b>9,064</b>	<b>9,864</b>	<b>10,521</b>	<b>11,007</b>	<b>11,630</b>	<b>12,132</b>
<b>Annual FTES</b>	<b>15-16</b>	<b>16-17</b>	<b>17-18</b>	<b>18-19</b>	<b>19-20</b>	<b>20-21</b>	<b>21-22</b>	<b>22-23</b>	<b>23-24</b>	<b>24-25</b>	<b>25-26</b>	<b>26-27</b>	<b>27-28</b>	<b>28-29</b>	<b>29-30</b>	<b>30-31</b>
<b>Actual Annual Resident FTES</b>		7,307	7,194	6,678	6,002	5,294	4,706	4,983	5,894	6,806	7,689	8,368	8,925	9,338	9,866	10,292
<b>CSU Target Annual Resident FTES</b>		7,603	7,603	7,603	7,603	7,603	7,603	7,603	7,603	7,603	7,603					
<b>Difference</b>		-296	-409	-925	-1,601	-2,309	-2,897	-2,620	-1,709	-797	86					

Note: HSU meets the CSU FTES goal in the Fall 2025 semester with an estimated FTES of 7,603

Planned growth is supported by new academic programs, expanded university housing, and targeted recruitment strategies. As illustrated in the Fall Headcount Targets for New Programs table below, Humboldt State University plans on launching several new academic programs within the next nine years, adding greatly to the diversity of our academic offerings. At least 10 new academic programs are scheduled to enhance Humboldt State University's academic program beginning in the Fall of 2023, estimating a cohort of 460 new students. These offerings include degree programs in Applied Fire Science & Management, Cannabis Studies, Cybersecurity (Certificate Program), Data Science, Energy Systems Engineering, Geospatial Analysis, Information Technology (Certificate Program), Marine Biology, Mechanical Engineering, Software Engineering, Sustainability (Certificate Program) as well as a graduate program in Engineering Leadership. Launching in 2026, undergraduate programs in Biotechnology, Biotechnology (Certificate Program), Clinical Lab Science (Certificate Program), Computer Science & Information Technology, Digital Arts & Media, Food Systems Science, Health Navigator & Narrative Medicine, and graduate programs in Nursing and STEM Education add an additional estimated student headcount of another 270 students entering that year. Finally, in 2029 undergraduate programs in Agriculture, Cybersecurity, Forest Engineering, Regenerative Engineering Design & Technology, as well as a graduate program in Speech Language Pathology are estimated to bring in a cohort of 250 students to the campus. The conservative impact as each cohort in each new academic program offering, and the cumulative effect of these offerings, contribute significantly to the planned growth of our student body.

### Fall Headcount Targets for New Programs

STEM+	Colcode	Department Code	Major Program Code	Fall 23	Fall 24	Fall 25	Fall 26	Fall 27	Fall 28	Fall 29	Fall 30
STEM+ 23	BA	Applied Science	Cannabis Studies BA	70	130	187	232	260	276	282	285
STEM+ 23	BS	Technology	Data Science BS	50	93	134	166	186	197	201	204
STEM+ 23	BS	Applied Science	Applied Fire Science & Management BS	50	93	134	166	186	197	201	204
STEM+ 23	BS	Engineering	Energy Systems Engineering BS	50	93	134	166	186	197	201	204
STEM+ 23	BS	Technology	Geospatial Analysis BS	30	56	80	100	112	118	121	122
STEM+ 23	BS	Engineering	Mechanical Engineering BS	100	186	268	332	372	394	402	407
STEM+ 23	BS	Engineering/Technology	Software Engineering BS	50	93	134	166	186	197	201	204
STEM+ 23	BS	Science	Marine Biology BS	50	93	134	166	186	197	201	204
STEM+ 23	MS	Engineering	Engineering Leadership MS	10	19	27	33	37	39	40	41
STEM+ 23	Cert	Technology	Information Technology Certificate	0	0	0	0	0	0	0	0
STEM+ 23	Cert	Technology	Cybersecurity Stackable Certificate	0	0	0	0	0	0	0	0
STEM+ 23	Cert	Applied Science	Sustainability Certificate	0	0	0	0	0	0	0	0
STEM+ 26	BA	Applied Science	Health Navigator & Narrative Medicine BA				50	93	134	166	186
STEM+ 26	BA	Technology	Digital Arts & Media BA				50	93	130	155	159
STEM+ 26	BS	Technology	Biotechnology BS				50	93	134	166	186
STEM+ 26	BS	Technology	Computer Science & Information Technology BS				70	130	187	232	260
STEM+ 26	BS	Applied Science	Food Systems Science BS				30	56	80	100	112
STEM+ 26	MEd	Applied Science	STEM Education MEd				10	19	27	33	37
STEM+ 26	MSN	Applied Science	Nursing MSN				10	19	27	33	37
STEM+ 26	Cert	Technology	Biotechnology Certificate				0	0	0	0	0
STEM+ 26	Cert	Technology	Clinical Lab Science Certificate				0	0	0	0	0
STEM+ 29	BS	Applied Science	Agriculture BS							70	130
STEM+ 29	BS	Technology	Cybersecurity BS							70	130
STEM+ 29	BS	Engineering	Forest Engineering BS							50	93
STEM+ 29	BS	Engineering/Technology	Regenerative Engineering Design & Technology BS							30	56
STEM+ 29	MS	Applied Science	Speech Language Pathology MS							30	56

Note: Enrollment not reflected for certificate programs because they will be offered as self-support. HSU meets the CSU FTES goal in the Fall 2025 semester with an estimated FTES of 7,603



In order to achieve our planned enrollment targets, our recruiting efforts will fall into the categories of 1) expanding the recruitment pipeline, 2) increasing the use and proficiency of technology and analytical tools, 3) building partnerships and collaborations, and 4) focusing on student retention.

## **EXPANDING THE RECRUITMENT PIPELINE**

Our first priority will be increasing our initial inquiry pool purchase from 200,000 to 500,000 names. We currently utilize a comprehensive search strategy to purchase names of highly qualified underclassmen who have completed the SAT/ACT that utilizes a HSU tested SMART+ machine learning enrollment prediction model to identify the maximum number of ideal prospects, complemented by collateral print and digital pieces targeted to this population. We are leveraging this data to strategically target community college and high school students to increase applications and increase student yield. Through strategic leveraging of admissions and athletics recruitment visits, and purchasing names and engaging in direct marketing to qualified students who have completed the SAT/ACT or a lead generation from various other sources, we will significantly expand the recruitment pipeline. This effort will be expanded to target students in engineering and other academic areas as part of our plan to grow as a Cal Poly. Finally, our plan is to develop new visit experience options for families (virtual and in-person) including “steps to enrollment” sessions to highlight the opportunities of an HSU education.

## **INCREASING THE USE AND PROFICIENCY OF TECHNOLOGY AND ANALYTICAL TOOLS**

We are utilizing geo-fencing and geo-targeting, adapting marketing strategies based on the latest updates from agencies like Facebook and Instagram in prime recruitment areas, and plan to increase the use of this technology. These Geo-Marketing plans will include more interactive video and infographic elements. We will continue to leverage Slate, our customer relationship management platform (CRM) system to generate messaging directly to students, parents, and high school and community college counselors. Slate is integrated into our supporting technologies of texting, chatbots, and other related enrollment management tools to improve yield rates. Our Admissions team continues to implement a Multi-Factor Admissions (MFA) process that has increased access to our first-time freshmen applicants from 80% in Fall 2020 to 91% in Fall 2021. Admissions will continue to adapt the MFA criteria as we continue to grow enrollment, in coordination with the Chancellor’s Office to follow admissions regulations, to adjust for academic targets and equity consideration. The foundation of the Multi-Factor criteria is set and ready to adapt to adhere to our enrollment demands. Our transfer pathways are expanding to include a Transfer+ model that focuses on increasing the number of prospects within the transfer funnel with a support model to improve the transfer experience from prospect to registration.

## **BUILDING PARTNERSHIPS AND COLLABORATIONS**

We continue to have an increased focus on counselor relationships, visits, and academic articulations to build an educational pathway from high schools and community colleges to Humboldt State University. We are proud of the impact our “Humboldt First” scholarships has had on recruiting local students, and that local promise will continue as we support education in our region. Considering transfer students, a growing population on our campus, we recognize the need to develop greater partnerships and articulations with community colleges to expand the transfer pipeline.

In the past year we have expanded our bilingual infrastructure to better reach our Spanish-speaking families, which includes the development of Spanish admissions presentations and emails, as well as an expanded hiring of fluent Spanish-speaking student staff who assist in call campaigns and campus tours. A complete Spanish translation of all recruitment materials is currently underway, suited to serve the needs of Hispanic families and to improve the ability for students to integrate their Spanish-speaking family members into college conversations.

We are also collaborating with academic affairs to prioritize recruiting current students to enroll in HSU’s high quality graduate programs. This includes increasing the number of overall pathways for 3+2, 4+1, or 4+2 programs for example. Our Admissions and Enrollment Communication teams have partnered with academic deans and department chairs to create a Recruitment and Yield Plan for each Academic Department, which can serve to address both the accelerated growth of new programs and to support continued growth in current

programs. This is a new initiative that puts to rest prior practices of leveraging faculty involvement far too late in the recruitment cycle. Faculty engagement is now utilized and executed based upon data that our Enrollment Team has recently collected, identifying optimal points for faculty engagement in the recruitment process. Each department has been able to adapt these plans to best leverage students' connections with faculty in the process of yielding students.

## **FOCUSING ON STUDENT RETENTION**

From an enrollment perspective, we also need to address issues pertaining to student retention. Though we have seen some positive results as a result of GI 2025 initiatives, we are also focusing our operational action plans on increased student engagement opportunities throughout the institution. By creating a new Student Activities Center, redesigning our dining program to offer greater quality and value for students, and increasing on-campus programming and events, our focus is to increase involvement of students in the active life of the campus. Beginning in the Fall 2021 semester, HSU will re-energize an institutional retention committee geared at developing institutional infrastructure around academic and student-led initiatives (such as using gateway course analyses to develop tutoring support, enriching academic programs in all colleges with Student Learning Communities and creating opportunities for faculty to become engaged with students outside of the classroom). Initiatives such as increased communication across campus on student support resources, supporting men of color and other at-risk groups, and developing stronger transfer points of connection to the campus are all retention strategies.

We are now using a series of direct interventions to encourage students to register when registration begins each term via weekly automated outreach to students who have not registered for next semester's classes via their personal and university email addresses through personalized messaging. We have also engaged in a marketing and social media campaign to create an experience around registration to complement the direct interventions. In concert with other enrollment management priorities such as strategic reallocation of scholarships, continued success in recruitment, and continual focus on student retention through partnerships with academic affairs, our goal is to improve student outcomes by improving to an 85% retention rate and increasing the number of students who earn a degree from HSU.

## **MATCHING GROWTH PLANS WITH HOUSING CAPACITY**

Expanded campus housing for undergraduate and graduate students supports the growth of our academic programs. Limited off-campus housing opportunities in our local community put additional stress on our need to increase campus housing for our students, an essential part of our planned growth. Launching our first new building by 2024, we will add 1,500 new beds to our housing inventory, and by 2028, on-campus housing will be able to accommodate almost 4,000 students.

### **► On-Campus Housing Capacity**

In November 2016, Humboldt State University engaged Brailsford & Dunlavey, Inc. (B&D) to complete a Student Housing Demand Analysis for Housing & Residence Life. The purpose of the Student Housing Demand Analysis was to provide a market analysis of the overall housing demand from Humboldt State University students. At the time of the analysis, HSU's enrollment neared 8,500 students, approximately 2,000 more students than were enrolled Fall 2020. Below are a few highlights related to on-campus housing capacity, from the full report.

- Humboldt State's housing portfolio is undersized and aged, particularly for first- and second-year students. Apart from the College Creek Apartments, much of the housing portfolio is accumulating significant deferred maintenance as it ages and is in need of investment.
- Although much of the housing portfolio is dated, students cherish community spaces in residence halls and on campus.
- Students viewed on-campus housing as preferable because of its ability to build community with other students, as well as enhance access to the academic experience at Humboldt State.
- Using a total population consistent with Fall 2016, B&D projected the demand for on-campus student housing across all class levels is -818 (-140 in traditional, -358 in suite style, and -320 in apartment style).

- Housing is viewed as effective in retention and development of student-campus identity; however, gaps in programs (e.g., small supply, underdeveloped second-year experience) create weak points.
- Availability of first-year housing critical to recruitment of first-year students.

## On-Campus Housing Capacity Growth Plan

Housing Project	Cost	Number of Beds	Cumulative Number of Beds	Estimated Completion Date
<b>Craftsman Mall</b>	\$100M	800	2,869	2024
<b>Science Housing</b>	\$50M	400	3,269	2025
<b>Library Circle Housing</b>	\$145M	650	3,919	2026
<b>Campus Apartments Demo</b>	\$2.5M	(200)	3,719	2026
<b>New Campus Apartments</b>	\$70-\$90M	400-600	4,119-4,319	2028

HSU is exploring a multi-use space model incorporating student housing into new and remodeled academic space depending on available funding.

### ► Off-Campus Housing Capacity

In addition to the on-campus housing review, B&D also reviewed the off-campus housing market, with key findings bulleted below.

- The surrounding Arcata housing market is very constrained, leaving some students to sleep in their cars or camp in the woods while they continue to look for housing.
- Investigation into the off-campus market revealed the Arcata market to be “Student Adverse,” given its high price point, requiring credit checks and large security deposits, 12-month leases, few student amenities, and active landlord selection against student occupants.
- Students stated it is very difficult to find off-campus housing. Participants also described the market as very expensive for students living alone or with one other person.
- Overall, the Arcata area is limited for units available. As a result, this is causing students to live further away from campus in other cities (i.e. Eureka and McKinleyville).

HSU’s declining enrollment and the increase in distance learning during the pandemic have temporarily eased the on-campus demand for housing. This is anticipated to change immediately upon the full return to in-person instruction. Off-campus housing continues to be challenging, despite a number of off-campus student apartment complexes having recently been built. Pricing for off-campus rentals remains high, large deposits are often required, as well as 12-month leases.

In response to the challenges students have faced in the off-campus rental market, Housing & Residence Life now employs an Off-Campus Housing Coordinator who provides student support in three general areas including:

- helping current students transition from the on-campus to off-campus housing market
- working with students and community members to develop connections and advocate for the housing needs of students
- work with property managers and landlords to create greater access to housing for students

The Off Campus Housing Coordinator also maintains the [Off-Campus Housing webpage](#) which offers a wide range of resources for students and landlords, including:

- Off Campus Resource Guide
- Rental Links
- Humboldt Tenant-Landlord Collaboration Program, a 10 module certificate program
- Community Resources

## MANAGING ENROLLMENT GROWTH IN STUDENT SERVICES

Providing holistic support to students requires a wide range of initiatives, all of which are critical to student success. This support can be categorized within three areas: 1) Direct Academic Support, Academic Planning, and College Navigation; 2) Student Engagement and Leadership Development; and 3) Student Care, Wellness, and Basic Needs.

### ► Direct Academic Support, Academic Planning, and College Navigation

- **Place-Based Learning Communities:** The academic themes for our Place-Based Learning Communities (PBLCs) are inclusive of all STEM/CNRS majors. The infrastructure developed for our PBLC's allows expansion to include new academic programs as we expand as a polytechnic campus. As program cohorts increase over time, additional learning communities can be created to ensure quality of experience (faculty:student ratio) and disciplinary focus as needed (i.e. engineering or health-related communities). Resource documents from prior PBLC implementations have been archived for future use to assist in the onboarding of new learning communities. From the launch of previous PBLCs, we know that expanding to add new learning communities requires additional temporary funds for both faculty and staff during the creation and capacity-building phases. In the long-term, additional learning communities would mean a need for increased permanent staff support as well as funds for the additional faculty workload and student supplies. Both the short-term and long-term needs depend on how many additional learning communities are needed and any specific programmatic support required.
- **Learning Center:** The Learning Center provides tutoring, Supplemental Instruction (SI), writing assistance, and academic skills development to HSU students. The Learning Center's peer-to-peer programs serve 20-30% of the campus body, although much of SI and tutoring are currently limited to intro STEM courses. As the campus population and programs grow, the center will meet the increasing need for in-class and out-of-class support by expanding embedded tutoring, Supplemental Instruction, and the Writing Fellows program. All three programs involve peer-to-peer support and strong ties with departments and faculty. Expansion would increase the need for outreach, communication, training, and coordination. In the short term, we anticipate a need for additional permanent staff to assist with Supplemental Instruction and embedded tutoring's growth, in addition to increasing student staff. As the campus continues to scale up, we anticipate increased need for additional SI, tutoring and writing support that would require additional permanent staff, release time for faculty liaisons, and the doubling of student staff. Furthermore, accommodating additional student traffic and providing services both in-person and online, requires additional computer stations, tech equipment, and space for students and tutors to meet.
- **Academic and Career Advising:**
  - » **Academic Advising** - Within ACAC, there are several academic advising programs provided to students. The caseloads support a ratio of 250 students to one advisor to provide holistic support to HSU's diverse student body. Currently ACAC advisors are the primary academic advisors for approximately 20% of HSU students. Our goal would be to maintain this ratio as a metric to manage growth.
  - » **Career Services** - The Academic & Career Advising Center will continue to focus on developing the career readiness of students. Currently, there are three career advisors for the university. Each career advisor is assigned to one college as their primary caseload and develops expertise to meet that college's specific needs. Career advisors help students identify career values and interests, explore majors that meet students' professional goals and demonstrate how a major and its coursework connect to career goals. Through the Career Curriculum Integration program, career readiness activities are integrated into the curriculum. Currently, approximately 75% of HSU majors have at least one class involved. This program will continue to expand as it has proven to build students' confidence in articulating coursework, skills and experience to employers.

With the growth in programs and enrollment, additional academic and career advisors will be needed to meet the demands relative to curricular expansion. Additionally, supporting the recruitment of HSU students for jobs, internships and careers will necessitate additional staffing to build on the multi-level employer relations work. ACAC will also need additional student staff to support this work.

- **EOP & TRIO Student Support Services:** The Educational Opportunity Program (EOP) begins providing direct support to students at the time of their initial application to the CSU and continues through graduation. EOP application processes are embedded within the Cal State Apply system, with approximately 50% of HSU undergraduate applicants initiating an EOP application. In order to meet the anticipated increase in EOP applicants, we anticipate a need for increased staffing to support EOP application processing, and an increase in EOP advising staff to match enrollment growth over time. In addition, to ensure a continuance of equity and access within the admission pipeline to HSU, EOP will increase efforts in recruitment, college to career awareness campaigns, and pre-enrollment academic development (with emphasis in math and sciences).

- **Retention through Academic Mentoring Program (RAMP):** RAMP is an evidence-based, student-centered retention effort that includes two mentoring programs, First-Year and Major-Based Peer Mentoring (FY-RAMP and MBPM-RAMP). FY-RAMP serves all first-generation first-year students (36-60% of HSU population, depending on the year). MBPM-RAMP is a program which currently offers students (primarily, but not exclusively, “middle year” students-sophomores, juniors and new transfer students) the opportunity to connect with student leaders in their shared major. Sixteen departments across all three academic colleges are participating in 2021-2022, with most departments being served by one mentor.

The long-term growth plan for RAMP is to: 1) expand major based peer mentor support into all academic departments, 2) hire two mentors per department, 3) secure permanent funding for the current temporary position, 4) secure an administrative support position, 5) separate major based peer mentoring into two distinct programs (Second-Year Major-Based Peer Mentoring and New Transfers Major-Based Peer Mentoring), each with its own assigned, full-time, permanent staff coordinator.

- **Community-Based Learning:** The Center for Community Based Learning is the hub for curricular experiential learning at HSU. This includes serving as the main line of communication to ensure processes are met and barriers are removed. In the last five years, HSU has increased the number of Service Learning and Academic Internship courses by 40%, approximately 1400 students participate each year. We are now adding approximately six Service Learning courses each year. The polytechnic designation will increase the experiential learning opportunities offered, especially in CNRS. We expect that the number of students in community-based learning courses will at least double as our enrollment doubles. In addition, we will increase partnerships with campus departments and community partners. As more opportunities are developed, additional professional staff and student staff will be needed to support faculty teaching courses, students taking them, coordinating student placements and community partners and processing learning site agreement and risk management review.

### ► Student Engagement and Leadership Development

- **Cultural Centers for Academic Excellence:** The centers are student-driven spaces for students to build a sense of community and connectedness to one another on campus, while at the same time providing a place outside of the academic realm for students to obtain academic resources and support. El Centro and Umoja (the Latinx and African American Centers for Academic Excellence) are the two centers that will need the most resources to help accommodate the additional growth in students. For example, both centers currently have one professional staff member. We will onboard additional staff, including student assistants, to provide adequate resources to students.

Some of the services that will continue to be provided and enhanced include but are not limited to: culturally related academic support and advising services, community engagement programs that focus on infusing respective ethnicities and cultures with the nature and outdoors of Humboldt county, student-driven programs and activities to foster a sense of belonging at HSU, maintaining the physical space of the centers and ensuring they are equipped to meet the needs of the current population of students, continuing to celebrate and highlight the achievements of our students from a ethnic and diverse lens.

- **Student Life:** Together, the Student Activities Center, Social Justice, Equity & Inclusion Center, Youth Educational Services (Y.E.S.), and the Office of Student Life provide campus events, leadership development opportunities, and student organization support for students on campus. This is the hub of the student experience on campus which is divided into three major themes: Community Engagement, Leadership Development, and Social Justice, Equity & Inclusion. Student engagement resources, including programming budgets as well as additional professional and student staff, will be increased to accommodate the demand of student growth and needs.

Some of the services that will continue to be provided and enhanced include but are not limited to: community volunteer experiences for students, prioritization of equity and justice via our campus dialogue on race and social justice summit events, continuing to enhance the student activities center with students engagement needs such as the commuter student lounge and gaming lounge, leadership development training through our skillshops and leadership conferences, and affinity building programs for students such as homecoming, club organization fairs, and campus concerts. We expect to scale up both professional and student positions in these areas to support the increased demand as a polytechnic campus.

### ► Student Care, Wellness, and Basic Needs

- **Dean of Students and Student Access Services:** These programs provide holistic support to students outside the classroom to help them be successful in the classroom. While transitioning to a polytechnic campus, SDRC and CARE services will see the greatest impact from enrollment growth. The staff are well trained and often work excess hours to ensure students are accommodated appropriately; the biggest necessity will be a need for resources to match the increase in student population. For example, there are four professional staff positions needed in SDRC for our current enrollment of approximately 6,500 students. With a goal to increase, we will onboard up to three additional staff in this area over time. For CARE services, there are three professional staff positions that work to accommodate our current student enrollment; and we expect to keep that current staff to student ratio in place as enrollment increases.

Some services that will continue to be provided and enhanced include but are not limited to: student referrals to basic needs resources on and off campus, academic accommodations and advocacy for students in need, provide short-term on-campus housing space for students who are having challenges obtaining housing, or facing a housing emergency, note taking services for students such as LiveScribe Pen or personal note-taker arranged, exam accommodations for extended time, technology needs, or exam reader, and students experiencing mobility limitations have access to a campus-wide tram service equipped with accessibility features to get them across campus as needed.

- **Student Health & Wellbeing Services:** Student Health & Wellbeing Services (SHWS) consists of Medical Services, Counseling & Psychological Services, Health Education, and food pantry (Oh SNAP!) services. All of these services must grow in accordance with the enrollment growth anticipated as we transition to a Polytechnic campus.

We plan to expand our staff in all departments in order to excel in meeting the medical, psychological, and wellbeing needs of our students. This will eventually require more space as currently the units are spread over three different locations and with no room for expansion. We have plans to partner with Housing & Residential Life in building a new residential facility that will also serve (on the top few floors) as a cutting-edge SHWS facility. At that time, all departments of SHWS will move to the new facility and be able to work more seamlessly together in service of our students. This will also create several new efficiencies as we can more effectively use shared personnel across departments. In addition, we hope to expand 24/7 medical and counseling availability to our students by using a telehealth service that will integrate with our current services and electronic medical records system. We are currently completing an RFP for this now. We will be monitoring enrollment growth to manage needed staffing support, and the additional revenue from the Student Health fee will provide a dedicated funding source to scale up capacity to keep pace with enrollment growth. We anticipate exciting opportunities for greater collaboration with the academic departments as they expand and

grow. For example, in 2026 we expect several new programs and degrees to be onboarded, including a Nursing MSN, Health Navigator & Narrative Medicine BA, and a Clinical Lab Science Certificate. We hope to be able to partner with these departments in developing possible field placements and internships, as well as other opportunities for learning and innovation.

- **Financial Aid:** With a focus on increasing both access and affordability for our diverse student body, our goal is to increase access and merit scholarships by \$2 million annually beginning in the 2023-24 academic year. Planned awards will be targeted to entering students who are both Pell eligible and academically advanced (at least 3.5 GPA), balancing goals of equity and merit to mirror enrollment growth goals. With awards of \$4,000 each, this will significantly narrow the gap between a typical freshmen aid package and the cost of attendance, making our institution both affordable and accessible. Making these scholarships renewable for a total of four years will also support retention and graduation efforts for the initial cohort of 500, and bring in new cohorts of increasing sizes in subsequent years. The number and amount of new awards may vary depending on the pace of enrollment growth and fundraising campaigns.

## University Name Change

### ► Process

The University Naming Working Group was charged with making recommendations for a new name for the university that will best convey our polytechnic identity, honor our place, and acknowledge our rich history as we become the third CSU polytechnic campus.

The members of the working group conducted two public focus groups and several informal focus groups among various constituencies, including current students, staff, faculty, emeritus staff and faculty, alumni, business partners, local government, conservation organizations, and parents. Estimating conservatively, over 250 individuals gave input on a potential new name for the university through these formal and informal focus groups. In addition, approximately 50 individuals submitted written comments through the Polytechnic Self-Study Google form or via direct email with the co-chairs of the working group.

Each formal focus group started with consideration of the names for the existing polytechnic institutions in the California State University and the naming history of our own institution. Both lists are given below.

- **Official names of polytechnic institutions in the California State University**
  - » California State Polytechnic University, Pomona
  - » California Polytechnic State University, San Luis Obispo
- **Humboldt State University Name History**
  - » 1913—Humboldt State Normal School
  - » 1921—Humboldt State Teachers College and Junior College
  - » 1935—Humboldt State College
  - » 1972—California State University, Humboldt
  - » 1974—Humboldt State University

Since the names for the existing polytechnic institutions do not imply a particular convention, and since HSU has had five different names in its history, much of the preliminary discussion of the focus groups included a consideration of a number of possibilities for a new name, with discussion of the pros and cons for each.

There are two key arguments from the working group in support of the proposed names:

First, Humboldt has been included in the name of the institution since its inception. While not unanimous among those providing feedback in our focus groups, there was very strong support for retaining Humboldt in the name. The historical Alexander von Humboldt, one of the most admired world figures in the early 19th century, continues to be an appropriate namesake for our institution. Humboldt was a visionary and interdisciplinary scholar, scientist, and global citizen who theorized plate tectonics, mapped plant distribution on three continents, observed the relationship between deforestation and climate, and promoted a unified and interdependent view of the natural world. He also promoted the arts, advocated for the rights of indigenous peoples, racial equality, and just societies, and denounced colonialism and slavery. In many ways, he is a historical model for the three main points of the HSU vision statement as expressed in our current draft strategic plan:

- We will be the premier center for the interdisciplinary study of the environment, climate crisis and resilience to climate change, and the conservation of ecological systems and natural resources. Our focus will continue to be on sustainability through environmental, economic, and socially responsible action.
- We will be a center for the interdisciplinary study of just global societies. We will approach our work with an equity mindset and continue to emphasize inclusion across multiple dimensions of our university, modeling what we want to see in the world.
- We will serve as a regional center for the arts inclusive of diverse arts traditions and contributions, and will fully engage with community arts partners and employers on behalf of our students.

Second, we intend to create a new interdisciplinary vision for a polytechnic university that is grounded in environmental sustainability and social justice, and so our name should “lead” with the intent. Leading with “Humboldt” signals that intentionality.

### ► Results

Five recommended names emerged from this collaborative and consultative process:

- **Humboldt State Polytechnic University**
- **Humboldt Polytechnic University**
- **California State Polytechnic University, Humboldt**
- **California Polytechnic State University, Humboldt**
- **Humboldt Polytechnic State University**

Following what was created out of this process, the President and Vice Presidents recommend the third naming approach above following the naming convention of our sister campus in Pomona: **California State Polytechnic University, Humboldt (Cal Poly Humboldt)**.

## Threats and Challenges

### ► Preliminary Planning Challenges

Traditional polytechnic universities are challenged to recruit, engage, retain, and graduate a diverse student body. We are committed to a comprehensive polytechnic university that is also a thriving Hispanic and Minority-Serving Institution and has strong relationships with thirteen tribal nations in our region with whom we nurture partnerships in incorporating traditional ecological knowledge (TEK). This requires high levels of communication and collaboration with tribal representatives in the planning phases.

### ► Implementation Challenges

We may face implementation challenges with regard to supply-chain limitation for building infrastructure as well as engaging builders/contractors/etc. to complete our projects. Once we build out our comprehensive polytechnic university the economic stimulus to the area will correct for this limitation for future projects.

In times of enrollment-related financial challenges, our university community can perceive opportunities like our polytechnic self-study from a zero-sum perspective as a win for some and a necessary loss for others. We are challenged to grow our collective understanding of this opportunity as a win-win, lifting all programs and bringing resources to benefit all.

We understand from our research and contacts with other polytechnic universities across the nation that they are working hard on ongoing transformation to meet the needs of employers for the skill development usually associated with liberal arts fields. We are challenged to develop and implement a polytechnic model that incorporates the full complement of skills and knowledge needed in high demand fields in our state and beyond.

We are faced with a potential challenge of the local community not growing at a pace to support the institution’s aspirations/growth. It impedes our ability to attract, recruit, and retain diverse faculty and staff. It is critical we strategically create programs and infrastructures that drive community enhancements to support workforce housing, healthcare, tourism, and hospitality.



# Conclusion

Humboldt State University is ready and excited to serve as the third comprehensive polytechnic university in the California State University System. We are a sound investment as a university already excelling in inclusive STEM education and research with a focus on economic, cultural, and environmental sustainability and a just global society. As a polytechnic, HSU is a triple threat: adding unique degree programs aligned with the state of California's goals regarding areas like climate resilience and wildfire mitigation, creating access to impacted degree programs in the CSU system that correlate with huge workforce gaps, and stimulating the Northern California economy and specifically the North Coast as HSU is the largest regional employer and an economic driver for the region.

Our northern coastal location is rich with possibilities in applied learning. The ocean, rivers, and forest are our classrooms. Our strengthening partnerships with local tribes and Indigenous nations creates unparalleled opportunities for students to learn about the incorporation of TEK with Western scientific traditions for a fuller and more grounded education.

We understand what employers want and need and are adept at the integration of the liberal arts and interdisciplinary courses of study. Our proposal connects our existing areas of excellence with opportunities for growth and the workforce development needs of the state of California and our region. We have and are continuing to develop the industry, government, and other external partnerships required for academic program success, meaningful applied research, and alumni placement. And we are already a CSU leader in external financial support for research partnerships including students.

We are gratified by the support shown by the Chancellor and Governor through the invitation to submit this proposal and the possible commitment of extensive state funds to jump start this transition if approved. We are excited to partner in growing capacity within the CSU for the degree programs students seek and that California needs. Thank you for the impetus to dream big and plan for Cal Poly Humboldt.

# Self-Study Steering Committee and Working Groups

*Self-Study Team Leads coordinated working group processes, as well as support from the technical team, and administrative staff. To coordinate and align their processes, working group chairs met regularly as part of the self-study steering committee. The technical team participated in and supported the steering committee to provide data, help to facilitate outreach, monitor and align multiple campus planning processes, and design and implement a communication plan.*

## **PLANNING TEAM LEADS**

**Jenn Capps**—Provost and Vice President for Academic Affairs

**Lisa Bond-Maupin**—Deputy Chief of Staff and Special Assistant to the President

## **TECHNICAL SUPPORT TEAM**

**Kristen Gould**—Director of Marketing, Marketing & Communications

**Michael Le**—Interim Director of Institutional Research, Analytics & Reporting

**Elavie Ndura**—Associate Vice President for Diversity, Equity & Inclusion and Campus Diversity Officer

**Nancy Olson**—Training Specialist, Human Resources

**Mary Oling-Sisay**—Vice Provost and Dean of Undergraduate & Graduate Studies

**Cutchá Risling Baldy**—Chair, Native American Studies

## **ADMINISTRATIVE SUPPORT TEAM**

**Lauren Lynch**—Executive Assistant, Office of the Provost

**Joy Finney**—Assistant to the Deputy Chief of Staff, Office of the President

**Paula Petersen**—Presidential Aide, Office of the President

## **ACADEMIC PROGRAMMING WORKING GROUP**

*This group was tasked with reporting on existing programming in science, applied science, engineering, and technology and created a phased plan to have at least three degree programs in each of the four areas where needed by 2023, and more in the future.*

**Eileen Cashman, Co-Lead**—Chair, Engineering

**Bori Mazzag, Co-Lead**—Chair, Mathematics & Computer Science

**Peter Alstone**—Assistant Professor, Schatz Energy Research Center

**Kris Anderson**—Community Member, IT Professional

**Jenn Capps**—Provost and Vice President for Academic Affairs

**Eden Donahue**—Assistant Professor, Nursing

**Tanya Garcia**—Research Engineer, Schatz Energy Research Center; Mathematics and Environmental Resources Engineering, '18

**Jim Graham**—Associate Professor, Environmental Science & Management

**Lonyx Landry**—Coordinator, Indian Natural Resource Science & Engineering Program

**Kerry Mayer**—Dean, College of the Redwoods

**Mary Oling-Sisay**—Vice Provost and Dean of Undergraduate & Graduate Studies

**Marissa Ramsier**—Professor, Anthropology

**Laurie Richmond**—Professor, Environmental Science & Management

**Cutchá Risling Baldy**—Chair, Native American Studies

**Amy Spowles**—Chair, Biological Sciences

# Self-Study Working Groups *Continued*

## **BUSINESS PLAN & FINANCIAL PRO FORMA WORKING GROUP**

*This group was tasked with describing HSU's current budget picture, the steps we are taking to address budget realignment, and creating a polytechnic business plan that demonstrates how HSU can support the additional components necessary to achieve the polytechnic designation.*

**Anthony Baker**, Co-Lead—Budget Resource and Safety Analyst, College of Natural

**Amber Blakeslee**, Co-Lead—Director, University Budget Office

**Ramesh Adkikari**—Assistant Professor and MBA Coordinator, School of Business Resources & Sciences

**Simone Aloisio**—Associate Vice President for Faculty Affairs

**Sherie Cornish Gordon**—Interim Vice President for Administration & Finance; Chief of Staff, Office of the President

**Aaron Foster**—Student

**Monty Mola**—Chair, Physics & Astronomy

**Deb Rice**—Associate Vice President for Development, University Advancement

**Liz Whitchurch**—Director of Facilities Operations, Facilities Management

**Erika Wright**—Pre-Award Specialist, Sponsored Programs Foundation

**Jim Woglom**—Assistant Professor, Art; Co-Chair, University Resource Planning Committee

## **INTERDISCIPLINARITY & THE ROLE OF THE LIBERAL ARTS WORKING GROUP**

*This group was tasked with documenting our existing strengths and our new opportunities, and creating a model vision for the role of the liberal arts, the infusion of the liberal arts in multidisciplinary teams, and other cross-disciplinary integration.*

**Rosamel Benavides-Garb**, Co-Lead—Interim Dean, College of Arts, Humanities & Social Sciences

**Matthew Johnson**, Co-Lead—Professor, Wildlife

**Rouhollah Aghasaleh**—Professor, School of Education

**Lisa Bond-Maupin**—Deputy Chief of Staff and Special Assistant to the President

**Adrienne Colegrove-Raymond**—Coordinator, Indian Tribal & Educational Personnel Program; Director of Elite Scholars

**Matthew Derrick**—Chair, Geography

**Tim Hayden**—Director, Yurok Tribe Natural Resource Division

**Nicole Jean Hill**—Professor, Art

**Heather Madar**—Chair, Art

**Jennifer Marlow** (Environmental Science)

**Jasper Oshun**—Professor, Geology

**Sarah Ray**—Program Director, Environmental Studies

**Sarita Ray Chaudhury**—Chair, School of Business

**Kaitlin Reed**—Professor, Native American Studies

**Kauyumari (Mari) Sanchez**—Assistant Professor, Psychology

**Forest Stearns**—'05, Art

**Gordon Ulmer**—Professor, Anthropology

# Self-Study Working Groups *Continued*

## **EXTERNAL PARTNERSHIPS WORKING GROUP**

*This group was tasked with providing information on fundraising, grant activity, community engagement, and the integration of industry/community in academic programming relevant to the polytechnic designation.*

**Connie Stewart**, Co-Lead—Executive Director of Initiatives, University Advancement

**Frank Whitlatch**, Co-Lead—Vice President for University Advancement

**Scott Adair**—Industry/Community Rep

**Julie Alderson**—Professor, Art

**Adrienne Colegrove-Raymond**—Coordinator, Indian Tribal & Educational Personnel Program; Director of Elite Scholars

**Loren Collins**—Faculty Support Coordinator, Center for Community Based Learning and Academic & Career Advising Center

**Yvonne Doble**—Director of Field Education, Social Work

**Kacie Flynn**—Executive Director, Sponsored Programs Foundation

**Andrew Kinzinger**—Chair, Fisheries

**Cyril Oberlander**—Dean, University Library; Interim Dean, College of Extended Education & Global Engagement

**Alison O'Dowd**—Professor, Environmental Science & Management

**Kim Perris**—Director of Nursing, Nursing

**Randy Weaver**—Industry/Community Rep

## **FACILITIES & OTHER RESOURCES WORKING GROUP**

*This group was tasked with identifying existing HSU infrastructure, facilities, and related resources and identifying/recommending additional space necessary to achieve polytechnic status.*

**Michael Fisher, Co-Lead**—Interim Associate Vice President, Facilities Management

**Arne Jacobson, Co-Lead**—Director, Schatz Energy Research Center; Professor, Environmental Resources Engineering

**Kassidy Banducci**—Architect, Facilities Planning, Design & Construction

**Allison Bronson**—Lecturer, Zoology; Curator, Vertebrate Museum

**Deirdre Clem**—Project Analyst, Facilities Planning, Design & Construction

**Shannon Collart**—Personnel Analyst, College of Arts, Humanities & Social Sciences

**Franziska Daumberger**—Student Representative, University Space & Facilities Advisory Committee

**Brian Gerving**—Director of Public Works, City of Eureka

**Jake Johnson**—Architect, County of Humboldt Planning Department

**Erin Kelly**—Associate Professor, Forestry & Wildland Resources

**Kelly Kime**—Assistant Director, Athletics

**Todd Larsen**—Director of Housing Operations

**Justus Ortega**—Chair, Kinesiology & Recreation Administration

**Bethany Rizzardi**—Chief Information Officer, Information Technology Services

**Rick Zechman**—Associate Dean, College of Natural Resources & Sciences; Director, Telonicher Marine Lab

# Self-Study Working Groups *Continued*

## **INCLUSIVE STUDENT SUCCESS & MANAGEMENT OF ENROLLMENT GROWTH WORKING GROUP**

*This group was tasked with exploring how HSU will incorporate principles, programs, and practice with regards to inclusive student success as we move toward a polytechnic designation.*

- Clint Rebik, Co-Lead**—University Registrar, Office of the Registrar
- Dan Saveliff, Co-Lead**—Director, Educational Opportunity Program & Student Support Services
- Annie Bolick-Floss**—Community Member; Former Director of Y.E.S. and Service Learning
- Nievita Bueno Watts**—Director, Indian Natural Resources, Science & Engineering Program
- Su Karl**—Director, Learning Center
- Molly Kresl**—Student Life Coordinator, Office of Student Life
- Kat Goldenberg**—Program Director, Place-Based Learning Communities
- Jayne McGuire**—Faculty, Professional Studies
- Elavie Ndura**—Associate Vice President for Diversity, Equity & Inclusion and Campus Diversity Officer
- Fernando Paz**—Coordinator, El Centro Académico Cultural
- Jim Ritter**—Community Outreach Coordinator, Humboldt County Office of Education
- Rebecca Robertson**—Lecturer, Anthropology
- Tracy Smith**—Director, Retention through Academic Mentoring Program
- Kathy Thornhill**—Director, Academic & Career Advising Center
- Darin Torres**—Student Representative
- Eboni Turnbow**—Interim Dean of Students, Enrollment Management

## **UNIVERSITY NAME CHANGE WORKING GROUP**

*This group is tasked with putting forward university name recommendations incorporating the word “polytechnic” with engaging input from students, faculty, staff, alumni, community members, and other stakeholders.*

- Stephanie Lane, Co-Lead**—Director of Alumni Relations, Alumni & Engagement
- Dale Oliver, Co-Lead**—Dean, College of Natural Resources & Sciences
- Lisa Bond-Maupin**,—Deputy Chief of Staff and Special Assistant to the President
- Ceva Courtemanche**—Owner, Ace Hardware; Vice President, Arcata Mainstreet
- Cathy Flores**—’75, Education
- Ken Fulgham**—Professor Emeritus, Forestry; Humboldt State University Foundation Board
- Kristen Gould**—Director of Marketing, Marketing & Communications
- Jamey Harris**—Cross Country Coach, Athletics
- Gary Ryneanson**—Humboldt State University Foundation Board
- Susan Seaman**—Mayor, City of Eureka
- Max Schmidtbauer**—College of Natural Resources & Sciences Representative, Associated Students
- Maxwell Schnurer**—Professor, Communication
- Jane Teixeira**—Director of Intercollegiate Athletics & Recreational Sports, Athletics
- Claire Till**—Assistant Professor, Chemistry
- Nancy Vizenor**—Professor, School of Business
- Cutchá Risling Baldy**—Chair, Native American Studies
- Amy Spowles**—Chair, Biological Sciences

# Appendices

[Appendix A](#)—Self-Study Invitation from Chancellor White

[Appendix B](#)— Recommended Process Guidelines for Polytechnic Development

[Appendix C](#)— Self-Study Invitation Response from President Jackson

[Appendix D](#)—Letters of Support

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<sup>1</sup>Whyte (2018) Whyte, K. (2018). Settler colonialism, ecology, and environmental injustice. *Environment and Society*, 9(1), 125-144.

<sup>2</sup>Carson, R. (1965) *The sense of wonder*. Harper Collins, New York, New York.

<sup>3</sup>The [New Work Mindset](#) (2017) reports that workers in the developed world can expect to change jobs 17 times and move among 5 different fields in their career. And [LinkedIn estimated](#) the students who graduated from US universities between 1986 and 2000 worked for an average of 1.6 companies in the first five years after graduation, that number jumped to 2.8 companies for those who graduated between 2006 and 2010.

<sup>4</sup>McGregor, S.L., 2017. Transdisciplinary pedagogy in higher education: Transdisciplinary learning, learning cycles and habits of minds. In *Transdisciplinary higher education* (pp. 3-16). Springer, Cham.; Brown, V.A., Harris, J.A. and Russell, J.Y. eds., 2010. *Tackling wicked problems through the transdisciplinary imagination*. Earthscan.

<sup>5</sup>[The Growing Importance of Social Skills in the Labor Market](#) (2017) estimated a 6% increase from 1980-2010 in employment for jobs demanding high STEM and high social skills, whereas there was a 4% decline in employment for job demanding high STEM but only low social skills.

<sup>6</sup>In 2016, [IBM executives](#) ranked technical core capabilities and STEM skills as the top two most critical skills for employees. In 2018, the top two skills sought were behavioral skills—willingness to be flexible, agile, and adaptable to change and time management skills and ability to prioritize. Likewise, reports from both the [Institute for the Future](#) and the [World Economic Forum](#) identify human skills as those most in demand, including sense making, social intelligence, adaptive thinking, cross cultural competency, transdisciplinarity, innovation, and creativity.

<sup>7</sup>Linares, Rendón, and Muñoz. "Revisiting validation theory: Theoretical foundations, applications, and extensions." *Enrollment Management Journal* 2, no. 1 (2011): 12-33. Also get that ref for Fernando re: pluriversality

<sup>8</sup>Smith and Shum (2018) *The Future Computed: Artificial Intelligence and Its Role in Society*

<sup>9</sup>Rhodes (2006) article entitled "Sustainability: the Ultimate Liberal Art" published in the *Chronicle of Higher Education*.



BAKERSFIELD

November 20, 2020

CHANNEL ISLANDS

**MEMORANDUM**

CHICO

DOMINGUEZ HILLS

TO: Tom Jackson, Jr.  
President  
Humboldt State University

EAST BAY

FRESNO

FROM: Timothy P. White  
Chancellor

FULLERTON

HUMBOLDT

SUBJECT: Consideration of Path Forward to Designate Humboldt State University as the Third Polytechnic University in the CSU

LONG BEACH

LOS ANGELES

I have appreciated our conversations over the past several months regarding the strengths and future directions for Humboldt State University. These discussions have been both informal and more formal in our annual summer conference. I am also aware of initial discussions at HSU, with the Division of Academic and Student Affairs here in the Chancellor's Office, along with the leadership at Cal Poly San Luis Obispo and Cal Poly Pomona.

MARITIME ACADEMY

MONTEREY BAY

NORTHRIDGE

POMONA

On November 12, 2020, I was pleased that we could engage Executive Vice Chancellor Blanchard and Chancellor-select Castro in the discussion. They concur with this effort to further develop a prospectus to designate HSU as a polytechnic university.

SACRAMENTO

SAN BERNARDINO

Therefore, I encourage you to further develop this concept that could lead to the CSU Board of Trustees taking an action to formally pronounce HSU as a polytechnic university. I now ask that you mobilize stakeholders and pursue a more rigorous self-study and develop a prospectus (along the lines of an academic and business plan) with campus and community stakeholders that hold promise to move this concept forward for formal consideration.

SAN DIEGO

SAN FRANCISCO

SAN JOSÉ

SAN LUIS OBISPO

Humboldt State University is a vital institution on the North Coast and for California. The campus currently has many distinct strengths in the sciences, with a special capacity for matters pertaining to forestry, oceanography, energy, and agriculture. As we look to the needs of California in the decades ahead, programs dealing with the development and application of new knowledge in the fire

SAN MARCOS

SONOMA

STANISLAUS

Dr. Tom Jackson, Jr.  
November 20, 2020  
Page 2

sciences, aquaculture, sustainable energy, north coast crops, and environmental sustainability are among a few areas where HSU could provide world-class programs.

I also see the likelihood that the designation and recognition of HSU as a polytechnic university would make your campus increasingly attractive to students from around California and beyond, creating a robust and stable student body at the undergraduate and graduate levels.

With all stated above, please notify me of your interest in further development as summarized above, along with a tentative timeline. This work can result in a most positive outcome for Humboldt State University, the CSU, your local region and the state of California.

If you have questions, please do not hesitate to reach out to Executive Vice Chancellor Blanchard or me; and, in the new year then Chancellor Castro.

c: Dr. Joseph I. Castro, Chancellor-select  
Dr. Loren J. Blanchard, Executive Vice Chancellor



**Recommended Guidelines for Process on Polytechnic Development**

[Contents](#)

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**Version 3: August 25, 2020**

## Background

### The Evolution of Polytechnic Campuses in the CSU

The founding of California Polytechnic State University, with its “learn-by-doing” philosophy, began when local journalist Myron Angel gathered a group of citizens in 1894 to lobby for a state school in San Luis Obispo. On March 8, 1901, Governor Gage signed legislation to establish the California Polytechnic School. On a visit to San Luis Obispo on May 9, 1903, President Theodore Roosevelt praised the citizens for their support of the state school. The first classes met October 1, 1903.

It offered a three-year program of secondary courses. In 1933 the California Board of Education transformed it into a two-year technical and vocational school, and it began to offer Bachelor of Arts degrees in 1940. It was renamed California State Polytechnic College in 1947.

Cal Poly Pomona opened on Sept. 15, 1938, with an all-male enrollment of 110 students as the Voorhis Unit of California State Polytechnic College in San Luis Obispo. It was located on the 150-acre San Dimas site of the former Voorhis School for Boys.

Breakfast cereal magnate W.K. Kellogg deeded 813 acres of land located three miles south of the Voorhis campus to the state of California in 1949.

In 1956, 508 students and 44 faculty and staff moved from San Dimas to the Kellogg campus. In a first for the all-male campus, 329 women joined the student body in 1961. The Pomona campus separated from the San Luis Obispo campus in 1966 and became California State Polytechnic College, Kellogg Campus. University status was granted in 1972.

The use of “polytechnic” in the titles of these campuses is an historical reference to the early focus on applied skills training.

In this day and age, “polytechnic” is somewhat synonymous with “institute of technology” (also referred to as: technological university, technical university, university of technology, technological educational institute, technical college, polytechnic university or just polytechnic) and can be defined as an institution of tertiary education that specializes in engineering, technology, applied science, and natural sciences. In the CSU system, this has included a focus on agricultural programs. Some examples in the United States are California Institute of Technology, Massachusetts Institute of Technology, Rensselaer Polytechnic Institute, and Virginia Polytechnic Institute and State University.

If a campus in the CSU were to be renamed with “polytechnic” in the title there would be an expectation that it meets the definition (institution of tertiary education that specializes in engineering, technology, applied science, and natural sciences).

California State University’s third “Polytechnic” at Humboldt State University should be defined to reflect 21st century needs and be future focused in degree programs, delivery methods, and industry and community integration. There is an increasing public expectation that science and associated all fields in STEM should be translational, with clear benefits to society. This model of “science serving society”, or a clear connection between scientific/technological advances and

their social impact needs to be a founding principle of new polytechniques. Secondly, the scope and complexity of today's challenges (such as sustainable food production; climate change); necessitate a more integrated approach to problem solving. "Team Science" (<https://www.teamsciencetoolkit.cancer.gov/Public/WhatIsTS.aspx>) is a term often used for a new level of collaboration in multidisciplinary research projects, and this team science approach should be introduced starting from early scientific training. Other fundamental aspects of the "polytechnic" such as hands-on and experiential learning have remained the hallmarks of these institutes of technology.

HSU's approach is guided by a philosophy of hands-on learning and applied research in order to graduate doers, makers, analysts and innovators. HSU strives to educate its graduates to have the personal capacity to help improve the human condition and the natural environment (sustainability)

Currently, Humboldt State University has one program in the engineering discipline and one computer science degree. There are numerous natural science degrees, two of which have "applied" in the concentration title and one concentration includes the word technology in its title. In addition to these programs the campus offers a wide variety of programs in the arts, humanities and social sciences. In fall 2018 the percentage of undergraduate enrollment in STEM fields, using a broad interpretation that includes agricultural and environmental degree programs, approached 41%.

Just as when we review degree title changes, we would expect a request for a campus name change to demonstrate that the entity has already undergone the metamorphosis that justifies the change.

#### Title 5 Related to Polytechnic Universities

Title 5 Section 40051 states: In addition to the functions provided by Section 40050, California Polytechnic State University, San Luis Obispo, and California Polytechnic State University, Pomona, shall each be authorized to emphasize the applied fields of agriculture, engineering, business, home economics and other occupational and professional fields. This section shall be liberally construed.

Section 40050 states: The primary function of the California State University is the provision of instruction for undergraduate students and graduate students through the master's degree, in the liberal arts and sciences, in applied fields and in the professions, including the teaching profession. Presently established two-year programs in agriculture are authorized, but other two-year programs shall be authorized only when mutually agreed upon by the Board of Trustees of the California State University and the Board of Governors of the California Community Colleges. The doctoral degree may be awarded jointly with the University of California, or jointly with a private institution of higher education accredited by the Western Association of Schools and Colleges, provided that in the latter case, the doctoral program is approved by the California Postsecondary Education Commission. Faculty research is authorized to the extent that it is consistent with the primary function of the California State University and the facilities provided for that function.

### Changing a Campus Name

Regarding campus name changes, from the 2004 BOT minutes:

**Hayward Campus Name Change** The board heard a discussion on a proposal to change the name of California State University, Hayward to California State University, East Bay. CSU trustees have the authority to select and change the name of any CSU campus. CSU Hayward President Norma Rees said that the proposed new name would provide the campus with the ability to reach full regional standing. The proposal will be voted at the January 2005 meeting. Several individuals spoke before the board on both sides of the issue.

On the History of the CSU page: <https://www2.calstate.edu/csu-system/about-the-csu/Pages/history.aspx>

In 1974, Senate Bill 381 changes the names of four campuses to Humboldt State University, San Diego State University, San Francisco State University, and San José State University. In 1976, Assembly Bill 3063 renames California State College, Sonoma to Sonoma State College.

### Polytechnic Campus: Eligibility Criteria

#### Definition

“institution of tertiary education that specializes in engineering, technology, applied science, and natural sciences”

**Commented [j1]:** I would suggest for our purposes applied science include health and agriculture degrees

#### Examples

“The ASU Polytechnic campus is a nexus for studies in interdisciplinary sciences, engineering, management, technology and education. Industry partnerships are key to the campus’ distinctive course offerings, which provide opportunities for project-based learning within advanced laboratory spaces. Specialized equipment for hands-on exploration includes simulators for flight and centers for consumer behavior research, semiconductor fabrication, comprehensive commercial printing and design services, and on-demand digital manufacturing.”

Cal Poly Pomona “Our emphasis on hands-on learning means we reach beyond the textbook to provide knowledge through experience. We promote creativity, discovery and innovation. We inspire critical thinking, collaboration and community engagement, and the way we integrate technology helps ensure that our graduates are career ready.”

HSU Poly provides a robust and diverse range of professional, scientific, technical and liberal arts programs that combine theory and hands on experiences to prepare graduates to be successful in empowering all members of society (sustainability). HSU is well poised to be the next CSU polytechnic due to:

- Location (ocean, forestry, agriculture, and rural)
- Sustainability lens
- Future focused and evolving 21<sup>st</sup> Century polytechnic

#### Eligibility criteria

Currently, Humboldt State University has one program in the engineering discipline and one computer science degree. There are numerous natural science degrees, two of which have “applied” in the concentration title and one concentration includes the word technology in its title. In addition to these programs the campus offers a wide variety of programs in the arts, humanities and social sciences. In fall 2018 the percentage of undergraduate enrollment in STEM fields, using a broad interpretation that includes agricultural and environmental degree programs, approached 41%. (See attached STEM PhDs document)

Criteria: Required evidence to support relevant teaching, research, and community-based partnerships

1. Academic structures: Robust STEM-intensive, accredited colleges/units. i.e. Engineering,
  - Programs required: Civil, Mechanical, and Electrical Engineering
  - Programs required: Suggest having at least three degrees programs in each area (science, engineering, technology, and applied science (or plans for launch) for polytechnic designation in 2023. Further seek to build out at minimum three additional degree programs across the four areas in 2026 and again in 2029. The chart reflected in the link details the suggested framework allowing for some flexibility response to evolving workforce and community needs. [Link](#) (See attached plan)
  - All programs would need to be accredited by ABET
  - Optional programs (we would need to see future plans for these programs): Agriculture, Agricultural Science, Agribusiness; Aerospace Engineering, Electronics System Engineering, System Engineering; Architecture
  - Architecture and Engineering programs listed in the optional category would also need to be accredited.
2. Number of STEM faculty: including start-up costs and hiring plan
  - Appropriate number of tenured/tenure-track faculty to obtain accreditation
3. STEM majors: relative % (without decrease in non-STEM majors)
  - The percentage of STEM majors would be equivalent as the existing two Polytechnic campuses
    - HSU currently has the highest percentage of per capita natural resources and science majors in the CSU without engineering fields at 39% (CSU average is 25%) (See attached chart #1)
    - With engineering included, we are third at approximately 35% (CSU average is 16%) (See attached chart #2)
4. Budget: support for building out and sustaining polytechnic programming

**Commented [j2]:** Suggest instead requiring three out of the following: Environmental Engineering, Civil Engineering Forest Engineering, Fire Protection Engineering, Software and/or Computer Engineering for the first three engineering programs in place for polytechnic designation in 2023.

**Commented [j3]:** No additional science degrees required, one or no additional applied science degree required depending if recreation administration is given credit under applied science, and two additional technology degrees will be launched. Please see attached chart.

**Commented [j4]:** Seeking ABET accreditation or other accreditation by the appropriate body. Innovative degrees which do not yet have an accreditation in place will not be penalized for inclusion.

**Commented [j5]:** We would like to pursue agriculture degree programs in our plan specifically in the areas of agricultural science and agribusiness. Agriculture would fit under applied science

- Dedicated buildings/instructional and lab space appropriate for sustaining the engineering programs and other STEM majors
  - Utilize space in the community, with partners and across and outside of Humboldt County.
  - Facility access in Del Norte County and Trinity County
5. Research infrastructure & expenditures: research awards, centers, industry-sponsored collaborations
- Faculty productivity in obtaining grants would be equivalent to the existing Polytechnic campuses. Campus infrastructure is sufficient to support faculty efforts
  - HSU currently has several facilities that will provide adequate academic, research and operation space to launch Polytechnic status. Some examples of existing facilities and industry sponsored collaborations include:
    - [Schatz Energy Research Center](#)
    - Coral Sea Research Vessel
    - [Fish Hatchery and other facilities associated with Fisheries](#)
    - [HSU Jacob Creek Forest](#)
6. Facilities: adequate lab and physical space
- Addressed in item #4
7. Regional profile: evidence of polytechnic-enabling industries
- a. Forestry, cannabis
  - b. Campus has partnerships with industry sufficient to obtain accreditation, i.e., industry members serve on Advisory Boards and assess student learning (Senior Projects) and provide internships to students. MOUs should be submitted.
    - i. HSU has a number of highly productive partnerships and centers with research centers, government agencies, cultural communities, and businesses.
    - ii. One example is the partnership between the City of Arcata, the Arcata Marsh, the Arcata Community Forest, and HSU on carbon.
    - iii. Other examples include relationships with the [United States Forest Service Redwood Sciences Research Lab](#); NOAA; California Department of Fish and Wildlife;
    - iv. Tribes - collaboration on the solar panels (Schatz Energy Research Center and Blue Lake Rancheria: <https://schatzcenter.org/blrmicrogrid/>)

**Commented [j6]:** Wanting to confirm that community and industry partnerships (including P3's) and co-located academic spaces are acceptable under the terms of this agreement.

**Commented [j7]:** Same comment as in #4- Wanting to confirm that community and industry partnerships (including P3's) and co-located academic spaces are acceptable under the terms of this agreement.

**Commented [j8]:** Dairy, agriculture, tech, government, tribal

**Bachelor's Programs of Origin for STEM PhDs  
Master's Granting Institutions (n=660)  
PhDs per 100 Undergraduates  
CSU and National Rankings**

Institution	PhD per 100 UG	Rank	
		CSU	National
Humboldt State University	3.02	1	8
California Polytechnic State University –San Luis Obispo	2.54	2	11
California State University - Pomona	0.97	3	19
San Francisco State University	0.93	4	21
San Jose State University	0.82	5	22
California State University – Long Beach	0.80	6	23
California State University – Northridge	0.68	7	24
California State University - Fullerton	0.67	8	25

**Source:** National Science Foundation, National Center for Science and Engineering Statistics, 2015 Survey of Earned Doctorates, special tabulation (April 2017).

**HSU Polytechnic Curricular Plan**

<p><b>2020</b> <b>HSU NOW</b></p>	<p><u><b>Engineering</b></u> 1. Environmental Resources Engineering</p>	<p><u><b>Applied Science</b></u> <u>(includes health &amp; agriculture)</u> 1. Kinesiology 2. Nursing 3. Recreation Administration</p>	<p><u><b>Technology</b></u> 1. Computer Science</p>	<p><u><b>Natural Science</b></u> 1. Biology 2. Botany 3. Chemistry 4. Environmental Systems (MS) 5. Fisheries 6. Forestry 7. Geology 8. Natural Resources 9. Oceanography 10. Physics 11. Range Resources 12. Science 13. Wildlife 14. Zoology</p>
<p><b>2023</b> <b>Polytechnic Designation</b></p>	<p><u><b>Engineering</b></u> 1. Civil Engineering  Add one of the following: Forest Engineering, Fire Protection Engineering, Software Engineering or Computer Engineering</p>	<p><u><b>Applied Science</b></u> Add one of the following: Agriculture Science, Agriculture Business, Speech Pathology, Occupational Therapy, or Nursing (MS)</p>	<p><u><b>Technology</b></u> 1. Cybersecurity  Add either: Data Science or Wind Energy</p>	<p><u><b>Natural Science</b></u> Nothing required; will explore MS in Marine Biology</p>
<p><b>2026</b> <b>Polytechnic Operating</b></p>	<p>Add at least three more degrees in total across all areas. Degrees considered include any mentioned above that were not pursued. In addition: Geomatics Engineering, Ocean Engineering, Information Systems, Artificial Intelligence, Biomedical, Cannabis, Water and Waste Management.</p>			
<p><b>2029</b> <b>Polytechnic Thriving</b></p>	<p>Add at least three more degrees in total across all four areas.</p>			



Chart #1

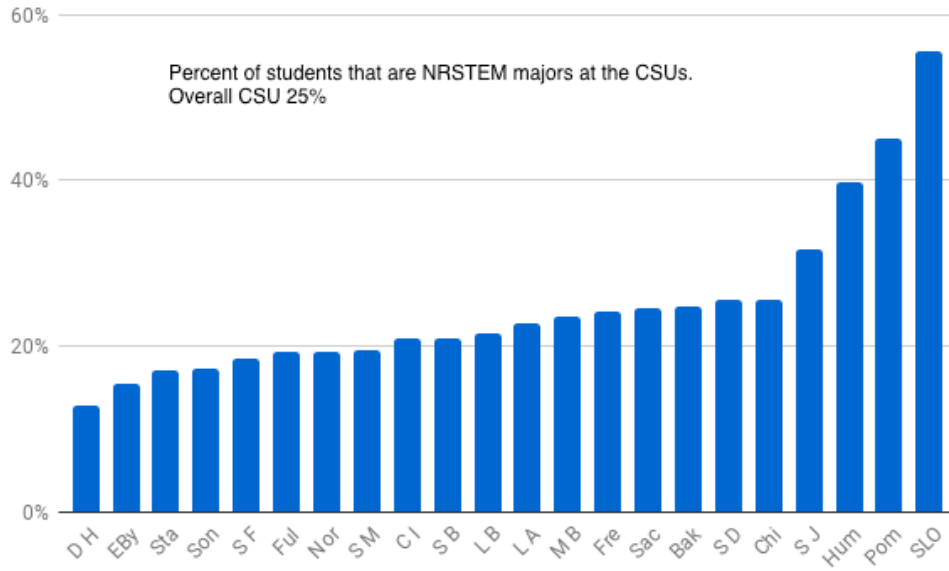
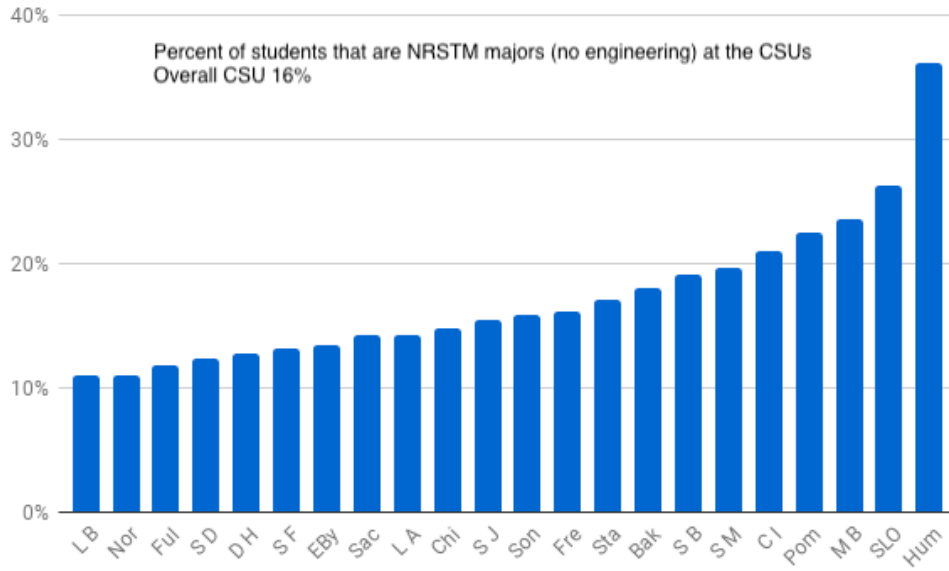


Chart #2





## HUMBOLDT STATE UNIVERSITY

Office of the President

### MEMORANDUM

Date: November 25, 2020

To: Timothy White, Chancellor of California State University

From: Tom Jackson, Jr., President *Tom Jackson Jr.*  
 Jenn Capps, Provost and Vice President for Academic Affairs  
 Sherie Gordon, Interim Vice President for Admin. & Finance; Chief of Staff  
 Jason Meriwether, Vice President for Enrollment Management  
 Frank Whitlatch, Vice President for University Advancement  
 Jane Teixeira, Director of Athletics and Recreational Sports  
 Lisa Bond-Maupin, Acting Deputy Chief of Staff

Subject: Response to Chancellor's Memorandum - *Consideration of Path Forward to Designate Humboldt State University as the Third Polytechnic University*

Thank you for your memo of November 20 inviting Humboldt State University to engage in a self-study toward a designation as the Third Polytechnic University in the California State University System (CSU). We greatly appreciate your recognition of our contributions and potential and concur that this is a great university of much promise. We are excited to receive your memo.

We understand that the requested self-study may eventually lead to the CSU Board of Trustees taking action to formally pronounce HSU as a polytechnic university. We understand the self-study to include the steps of a) mobilizing stakeholders, including community and industry partners, b) tapping student, staff and faculty expertise and vision, and c) carefully examining resource implications. We understand that you are also requesting a response notifying you of our interest in further development, along with a tentative timeline.

As requested, this response acknowledges that Humboldt State University (HSU) affirmatively welcomes this memorandum and the opportunity to pursue HSU becoming designated as the third polytechnic state university. The HSU community and our local partners are ecstatic about the opportunity to further strengthen and define the campus, develop or strengthen the necessary programs, and challenge ourselves in a manner that will lead to this designation.

1 Harpst Street • Arcata, California 95521-8299 • 707 826-3311 • [humboldt.edu/pres](http://humboldt.edu/pres)

THE CALIFORNIA STATE UNIVERSITY • Bakersfield • Channel Islands • Chico • Dominguez Hills • East Bay • Fresno • Fullerton • Humboldt • Long Beach • Los Angeles  
 Maritime Academy • Monterey Bay • Northridge • Pomona • Sacramento • San Bernardino • San Diego • San Francisco • San Jose • San Luis Obispo • San Marcos • Sonoma • Stanislaus

This is a perfectly opportune time for HSU. A number of current major projects are poised to bring new prosperity to Humboldt County and the North Coast. Humboldt State University has a transformative opportunity to play a major role. There is the new cable landing, with a high-speed undersea internet connection arriving from Asia to Arcata. In the same location, Nordic Aquafarms is moving quickly on a \$400 million facility that will create an estimated 150 permanent jobs.

At HSU, we are in the midst of strategic planning and academic master planning processes. Our new Science Building is part of the CSU Multi-Year capital investment plan and will support our academic infrastructure needs. We have just completed our first comprehensive campaign feasibility study and are in the silent phase with a solid response so far. We are discussing plans for new housing, growth in athletics, outreach to our rural and tribal partners, and additional property for regional expansion. Our partnership with the College of the Redwoods is strong and growing, including our success in re-launching the Nursing program. We have even improved our diversity and established two important advisory groups: the President’s Community Advisory and the Native American Advisory Councils. Lastly, our campus research efforts continue to be a source of pride. We have written for over \$200 million in grants, receiving nearly \$34 million in the past year. Becoming a polytechnic university, without question, will enable HSU to more successfully compete for the major environmental, science, technology, agriculture, health, and energy grants we have pursued while assisting all campuses across the state in meeting California workforce needs.

HSU proposes the following timeline, with a prospectus (academic and business plan) to be submitted to the Chancellor’s Office no later than the end of the Spring, 2021 semester.

December 23, 2020	Submit prospectus outline and items to be addressed to the CO. The general outline will include, but is not limited to the following topical areas to be addressed: academic programs, facilities, funding, infrastructure, regional workforce needs, and community partnerships.
January 15, 2021	CO feedback on initial outline returned to HSU.
February 15, 2021	Cal Poly Self-Study First Draft reviewed with CO. Items discussed, modified, reviewed, and realigned as needed.
March 15, 2021	Revised Cal Poly Self-Study draft reviewed with CO. First “update” provided in writing to the <u>Educational Policy Committee</u> of the CSU Board of Trustees.

May 15, 2021	Revised Cal Poly Self-Study draft reviewed with CO. Second “update” provided in writing to the <u>Educational Policy Committee</u> of the CSU Board of Trustees.
May 31, 2021	Cal Poly/HSU Self-Study and Plan submitted to CO. From June to July, revisions, action plans, and other items in need to be addressed.
July or September 2021	If ready, formal request submitted to the <u>Educational Policy Committee</u> and CSU Board of Trustees (BOT) for a campus name change and designation as polytechnic. If not ready, continual improvements to the self-study and plan until such time it is appropriate for submittal to the BOT.
Thereafter	Application of campus plan as approved in the self-study and plan.

We can’t overstate what a monumental change this could be for HSU, raising the profile of the institution, bringing new employers and industry to the region, and allowing our university to pursue major new grants and research. We could build on our strengths as a teaching, hands-on, place-based learning environment, while developing and offering new and expanded programs in science, technology, engineering, and applied sciences such as health and agriculture and many others. We have a chance to reimagine the polytechnic for the 21st century, with a grounding in sustainability, innovation, science serving society, and service to rural and tribal communities.

Thank you for the opportunity to explore this opportunity for HSU and for all Californians.

# HUMBOLDT STATE UNIVERSITY

University Senate

## Memorandum

**To:** Professor Jenn Capps, PhD  
Provost and Vice President for Academic Affairs  
Humboldt State University

Professor Lisa Bond-Maupin, PhD  
Deputy Chief of Staff  
Humboldt State University

**From:** Professor Monty Mola, PhD  
General Faculty President & Chair of the University Senate

*Monty Mola*  
08/30/2021

The Senate Executive Committee of the University Senate  
Humboldt State University

**Subject:** Support for Humboldt State University to transition to a Polytechnic Institution

**Date:** August 30, 2021

On behalf of the Humboldt State University Senate, the Senate Executive Committee offers full support of the submitted prospectus to transform our institution into California's third Polytechnic University. During the past eight months, the proposal was generated through countless hours of collaborative effort by students, staff, faculty and administrators. It details our plan to become an engaging, inclusive, 21st century Polytechnic that supports student and workforce needs of California and beyond.

Becoming a Polytechnic University will help Humboldt State better serve California's students through vital and holistic secondary education, which in turn will provide job-ready, skilled workers for the State of California. With a demonstrated commitment to student access and success, phenomenal faculty, and storied existing infrastructure Humboldt is well prepared to make this historic change.

We are particularly inspired by the opportunity to build on HSU's reputation as an institution that prioritizes research and action on sustainability and social justice. Current

## **HUMBOLDT STATE UNIVERSITY**

### **University Senate**

and future students will benefit from infrastructure and practices that support engaged learning across the arts, humanities, social and natural sciences, and engineering: a signature of the HSU academic experience. This foundation will pave the way for new and exciting academic programs, research, development, and practice in Engineering, and Applied Science and Technology.

From the Redwood Forests to the Pacific Coast, the natural, historical, and social environments that surround HSU, create a dynamic framework for ethical engagement with the natural world and our communities. This rural California North Coast context offers challenging and enriching hands-on learning spaces for student, faculty, and community partnerships. Area tribes and their community leaders, many who are also HSU faculty, staff, and students, have been central to our ongoing work to center, honor, and steward the land on which HSU is built. Traditional Ecological Knowledge informs the unique Humboldt Polytechnic student experience and the frameworks for problem solving they will offer California and the world.

Finally, on behalf of the Senate, we extend our appreciation to all the students, staff, faculty, and administrators who collaborated on the plan through committees and open forums. We look forward to providing a university governance forum, as well as curricular, resource, and policy committee structures, to shepherd developing plans in the coming months and years ahead.

## **HSU ERFSA - Emeritus and Retired Faculty and Staff Association**

President's Office  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

August 20, 2021

Dear CSU Board of Trustees, Chancellor Castro, President Jackson:

Members of the Coordinating Committee of the Emeritus and Retired Faculty and Staff Association of Humboldt State University (HSU) are highly supportive of the proposal to transition HSU to a Polytechnic University. The Polytechnic Prospectus prepared by the HSU administration, faculty and staff is an excellent plan for this transition. We encourage you to formally approve this plan that will provide important services to our students, our community and the state and beyond.

We are pleased that the proposed polytechnic campus will focus on the need to increase and further diversify student numbers. Given the ongoing changes in ethnic diversity in our state, country, it is critical that our students have the opportunity to learn from other students and, of course, from a diverse faculty and staff. HSU's success in becoming a Hispanic-Serving Institution in 2014, and the recipient of grants from the federal Department of Education has been and will be critical as the university evolves into a polytechnic campus.

We continue to be pleased that student support programs are excellent and developing at the university. The Place-Based Learning Communities, the Student Learning Community and the Educational Opportunity Program are good examples of ways to assist new students that will be attracted to Cal Poly Humboldt. The future of students will also benefit from the proposed combined Academic & Career Advising Center.

The university's continuing excellent collaboration with the local College of the Redwoods is critical to our community and especially for health care. It is good to see that HSU has advisory groups that include Native Americans and community leaders.

This is an exciting time for HSU, the California State University System and Humboldt County as HSU becomes a diverse polytechnic. The members of the HSU Emeritus and



Retired Faculty and Staff Association are pleased to see the successes of their university and will do all we can to assist in the transition to a polytechnic campus. Thanks to you and your colleagues for your good leadership of the CSU System and for your caring consideration of the Polytechnic Prospectus. We look forward to your important decision.

Sincerely,

Coordinating Committee of the Emeritus and Retired Faculty and Staff Association  
Marshelle Thobaben, Emerita Professor, Nursing, Co-Chair, University Senate  
Representative

Ken Fulgham, Emeritus Professor, Rangeland Resources Sciences, Co-Chair, Treasurer

Jeffry Borgeld, Emeritus Professor, Oceanography, Membership Chair

Bernadette Cheyne, Emerita Professor, Theatre, Film and Dance, Program Chair

Susan Dobie, Emerita Lecturer, Communications, At-large Representative

James Floss, Emeritus Lecturer, Communications, At-large Representative

Rollin Richmond, President Emeritus; Past Chair

Cc: Frank Whitlatch, Vice President for University Advancement



## Small Business Lending Center

AEDC provides loans and support to entrepreneurial, innovative business and community endeavors.  
707 K Street, Eureka, CA 95501 707.798.6132 707.798.6130 fax www.aedc1.org

3/8/2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson,

On behalf of Arcata Economic Development Corporation, I am writing to offer our congratulations and support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

A polytechnic institution in Northern California would expand opportunity for students and help the state economically. We know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As we understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

In the 70s, as our community was facing a changing economy from one that was strictly natural resources, AEDC played a key role in helping develop some of the industries that support our community today, particularly around manufacturing. That has nurtured a culture of entrepreneurship that is not exclusive to business students. In fact, many of the most successful participants in the now defunct Economic Fuel Business Plan program came from the science and natural resource departments. The learning by doing approach that is already part of the culture of Humboldt State University played a catalyst role in developing these entrepreneurs. Additionally, AEDC has had a representative on HSU's Center for Community Based Learning Advisory Committee for eight years where we have seen the ongoing efforts made to give students real world experience.

Polytechnic universities embrace the learning by doing approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources. The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region

Serving Humboldt, Del Norte, Trinity, Siskiyou, Mendocino, and Lake Counties





## Small Business Lending Center

AEDC provides loans and support to entrepreneurial, innovative business and community endeavors.  
707 K Street, Eureka, CA 95501 707.798.6132 707.798.6130 fax [www.aedc1.org](http://www.aedc1.org)

and our world. Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

Please keep us updated as you seek this important designation, and let us know if we can provide additional perspective or be of assistance.

Sincerely,

Ross Welch, Executive Director

Cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University, [ces54@humboldt.edu](mailto:ces54@humboldt.edu)  
Frank Whitlatch, Vice President for University Advancement, Humboldt State University, [frank@humboldt.edu](mailto:frank@humboldt.edu)

Serving Humboldt, Del Norte, Trinity, Siskiyou, Mendocino, and Lake Counties



**AGRICULTURAL  
RESEARCH INSTITUTE**

26 March 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson,

On behalf of the California State University Agricultural Research Institute, I am writing to offer our congratulations and support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, the CSU system and the entire state.

A polytechnic institution in Northern California would build on the exemplary research being conducted by Humboldt's faculty and students. The polytechnic approach, which Humboldt already embraces, would help expand opportunities for students to gain skills and critical thinking that will make them our next innovators and leaders in California. Because we know our students tend to stay in California after graduating, this is an investment in our future. We know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also

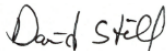
seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As we understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

Founded in 1999, the Agricultural Research Institute (ARI) seeks to enable applied research – through the power of the CSU – that benefits California agriculture, natural resources and food systems while cultivating the next generation of agricultural leaders. Humboldt State University joined ARI as an associate campus in FY 2014-15. The addition of Humboldt significantly expanded ARI's research portfolio in natural resources. Since FY 2014-15, ARI has allocated \$1.5 million of state funds in support of over 30 projects that further ARI's mission. These state funds have been matched with another \$1.6 million from industry, federal and state agencies and together, co-fund ARI projects being conducted by Humboldt faculty and students. Humboldt State ARI projects reflect the expertise of faculty and the research needs of Northern California. These projects center on natural resources and include applied research that will improve forest resiliency to climate change, mitigate the impacts of wildfires, and improve biodiversity in agricultural lands and natural lands. Importantly, ARI projects are vehicles to deliver science training and opportunities to develop critical thinking skills that will help Humboldt's students become our next leaders in California agricultural and natural resource industries and agencies.

Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes Humboldt State as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources. The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge bolstered by new advances in evolutionary and molecular ecology, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region, state, and world. Because of that, the "Polytechnic" designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

Please keep us updated as you seek this important designation and let us know if we can provide additional perspective or be of assistance.

Sincerely,



David Still  
Executive Director  
CSU Agricultural Research Institute  
Organization

Cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University, ces54@humboldt.edu  
Frank Whitlatch, Vice President for University Advancement, Humboldt State University, frank@humboldt.edu

**COMMITTEES**

CHAIR: HEALTH  
BUDGET

INSURANCE  
JOINT LEGISLATIVE AUDIT  
WATER, PARKS, AND WILDLIFE

BUDGET SUBCOMMITTEE NO. 1 ON HEALTH  
AND HUMAN SERVICES

**SELECT COMMITTEES**

HEALTHCARE ACCESS IN RURAL COMMUNITIES  
CRAFT BREWING AND DISTILLING  
SEA LEVEL RISE IN CALIFORNIA

Assembly  
California Legislature



**JIM WOOD**  
ASSEMBLYMEMBER, SECOND DISTRICT

**STATE CAPITOL**

P.O. BOX 942849  
SACRAMENTO, CA 94249-0002  
(916) 319-2002  
FAX (916) 319-2102

**DISTRICT OFFICES**

200 S SCHOOL STREET, SUITE D  
UKIAH, CA 95482  
(707) 463-5770  
FAX (707) 463-5773

50 D STREET, SUITE 450  
SANTA ROSA, CA 95404  
(707) 576-2526  
FAX (707) 576-2297

1036 5TH STREET, SUITE D  
EUREKA, CA 95501  
(707) 445-7014  
FAX (707) 455-6607

March 9, 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson,

I am writing to offer my congratulations and support for your efforts to transform Humboldt State University (HSU) into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

A polytechnic institution in Northern California would expand opportunity for students and help the state economically. We know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As I understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes HSU as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources.

The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region and our world. Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

I look forward to hearing more as you seek this important designation. It will be a great asset to the 2<sup>nd</sup> Assembly District. If you have any questions, please do not hesitate to contact me.

Respectfully,

A handwritten signature in blue ink that reads "Jim Wood".

**JIM WOOD**  
Assemblymember, 2<sup>nd</sup> District



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JARED HUFFMAN  
2ND DISTRICT, CALIFORNIA

WASHINGTON OFFICE  
1527 LONGWORTH HOUSE OFFICE BUILDING  
WASHINGTON, DC 20515  
PHONE: (202) 225-5161  
FAX: (202) 225-5163  
WEBSITE: [huffman.house.gov](http://huffman.house.gov)

**Congress of the United States**  
**House of Representatives**  
Washington, DC 20515-0502

COMMITTEE ON  
NATURAL RESOURCES  
WATER, OCEANS, AND WILDLIFE – CHAIR  
NATIONAL PARKS, FORESTS, AND PUBLIC LANDS  
ENERGY AND MINERAL RESOURCES  
COMMITTEE ON TRANSPORTATION  
AND INFRASTRUCTURE  
HIGHWAYS AND TRANSIT  
WATER RESOURCES AND ENVIRONMENT  
SELECT COMMITTEE ON THE  
CLIMATE CRISIS

April 15, 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson:

I am writing in support of Humboldt State University's (HSU) efforts to become the third polytechnic university in the State of California, a transformation that would be an incredible benefit to its students, my congressional district, and the state.

A polytechnic institution in Northern California would expand opportunities for students and be a boon to the regional and state economy. There is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability – all important priorities for HSU in seeking to officially become a polytechnic.

HSU is the only public university in my congressional district, which runs from the Golden Gate Bridge to the Oregon border, and inland to Trinity County. The university is not only a resource for its students, it is a resource for my office and Congress.

The university's contributions to the local and regional community would grow with a polytechnic designation. HSU is well-positioned to build on its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources. The university could become a true 21st century polytechnic, focusing on social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, and renewable energy.

The North Coast's students, institutions, communities, and economies would profoundly benefit from HSU becoming a polytechnic university. I urge your strong, full and fair consideration as you consider granting the university this status. Please let me know if you have any questions.

Sincerely,

  
JARED HUFFMAN  
Member of Congress

**SAN RAFAEL**  
999 FIFTH AVENUE, SUITE 290  
SAN RAFAEL, CA 94901  
PHONE: (415) 258-9657  
FAX: (415) 258-9913

**PETALUMA**  
206 G STREET, #3  
PETALUMA, CA 94952  
PHONE: (707) 981-8967  
FAX: (415) 258-9913

**UKIAH**  
200 S. SCHOOL ST., SUITE 1  
UKIAH, CA 95482  
PHONE: (707) 671-7449  
FAX: (707) 962-0905

**FORT BRAGG**  
430 NORTH FRANKLIN STREET  
P.O. BOX 2208  
FORT BRAGG, CA 95437  
PHONE: (707) 962-0933  
FAX: (707) 962-0905

**EUREKA**  
317 THIRD STREET, SUITE 1  
EUREKA, CA 95501  
PHONE: (707) 407-3685  
FAX: (707) 407-3689

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BOARD OF SUPERVISORS  
**COUNTY OF HUMBOLDT**

825 5TH STREET, ROOM 111  
EUREKA, CALIFORNIA 95501    PHONE: (707) 476-2390

March 8, 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson,

As the 1<sup>st</sup> District Supervisor on the Humboldt County Board of Supervisors, I am writing to offer my congratulations and support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

A polytechnic institution in Northern California would expand opportunity for students and help the state economically. I know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As I understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes Humboldt State as we know it today.

With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources. The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region and our world. Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.



Please keep me updated as you seek this important designation, and let me know if I can provide additional perspective or be of assistance.

Sincerely,



Rex Bohn, 1<sup>st</sup> District Supervisor  
Humboldt County Board of Supervisors

RB:kh

cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University,  
[ces54@humboldt.edu](mailto:ces54@humboldt.edu)  
Frank Whitlatch, Vice President for University Advancement, Humboldt State  
University, [frank@humboldt.edu](mailto:frank@humboldt.edu)



# The California State University

PROGRAM FOR EDUCATION AND RESEARCH IN BIOTECHNOLOGY (CSUPERB)

## Program Office

San Diego State University  
5500 Campanile Drive  
San Diego, CA 92182-1011  
www.calstate.edu/csUPERB  
Tel: 619-594-2822

Bianca R. Mothé  
Interim Executive Director

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University, Pomona

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CSU Fresno

Gayle E. Hutchinson  
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Adela de la Torre  
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CSU San Marcos

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Koni Stone  
CSU Stanislaus

Miri VanHoven  
San José State University

March 10, 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson,

On behalf of CSUPERB, I am writing to offer our congratulations and support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

A polytechnic institution in Northern California would expand opportunity for students and help the state economically. We know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As we understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

HSU has a strong presence in CSUPERB, including membership in our governance structure (thank you for joining our CSUPERB Presidents' Commission). HSU faculty and students consistently compete successfully for CSUPERB grant and awards. Also, HSU faculty and students bring a strong presence and voice to our CSUPERB symposium. The unique attributes of your campus strengthen the contributions of your faculty and students to CSUPERB and I believe transitioning to a polytechnic will enhance opportunities for your community.

Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes Humboldt State as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources. The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region and our world. Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

Please keep us updated as you seek this important designation, and let us know if we can provide additional perspective or be of assistance.

THE CALIFORNIA STATE UNIVERSITY

Sincerely,

*Bianca R. Mothé*

Bianca R. Mothé, Ph.D.  
Interim Executive Director  
CSUPERB

Cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University,  
ces54@humboldt.edu  
Frank Whitlatch, Vice President for University Advancement, Humboldt State  
University, frank@humboldt.edu



March 26, 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson,

On behalf of Etheric Networks, I am writing to offer our congratulations and support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

A polytechnic institution in Northern California would expand opportunity for students and help the state economically. We know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As we understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

Etheric Networks is currently collaborating with Connie Stewart, Executive Director of Initiatives, and the Rural Development Innovation Group as we seek to bring reliable broadband to underserved communities in rural Northern California. We want to employ local graduates to help build and maintain our network, and are interested in partnering with HSU to develop a curriculum for network engineers and technicians who will play a vital roll in keeping community networks running.

Polytechnic universities embrace a “learning by doing” approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes Humboldt State as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources.

The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region and our world. Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

Etheric Networks, Inc. • 1009 S. Claremont Street • San Mateo, CA • 650-399-4200

Please keep us updated as you seek this important designation, and let us know if we can provide additional perspective or be of assistance.

Sincerely,

*W. Alexander Hagen*

W. Alexander Hagen  
Founder/CEO/CTO  
Ethereic Networks

Cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University  
[ces54@humboldt.edu](mailto:ces54@humboldt.edu)

Frank Whitlatch, Vice President for University Advancement, Humboldt State University  
[frank@humboldt.edu](mailto:frank@humboldt.edu)



March 8, 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson:

On behalf of the Greater Eureka Chamber of Commerce, I am writing to offer our congratulations and support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

A polytechnic institution in Northern California would expand opportunity for students and help the state economically. We know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As we understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

Through the effort of our Business & Education Committee, the Greater Eureka Chamber of Commerce works with representatives from Humboldt State University with a focus on education and training issues of interest to the business community. The Eureka Chamber also recognizes the importance of Humboldt State University on the local economy, with its direct economic impact generating \$38 million in state and local tax revenue annually and supporting more than 10 percent of regional employment.

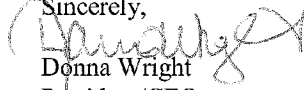
Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes Humboldt State as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources. The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region and our world.

*President Tom Jackson, Jr. – March 8, 2021 – page two*

Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

Please keep us updated as you seek this important designation, and let us know if we can provide additional perspective or be of assistance.

Sincerely,



Donna Wright  
President/CEO  
Greater Eureka Chamber of Commerce

cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University  
Frank Whitlatch, Vice President for University Advancement, Humboldt State University

3/8/2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson,

I am writing to offer our congratulations and support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

A polytechnic institution in Northern California would expand opportunity for students and help the state economically. We know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As we understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

The City of Eureka and Humboldt County are looking at emerging opportunities in the areas of aquaculture, renewable energy, technology and more. Having a Polytechnic in the region who can be a partner in these areas will help these growing industries become more successful.

Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes Humboldt State as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources. The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region and our world. Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

Please keep us updated as you seek this important designation, and let us know if we can provide additional perspective or be of assistance.

Sincerely,  


Susan Seaman, Mayor  
City of Eureka



Cc: Connie Stewart, Executive Director of Initiatives,  
Humboldt State University, [ces54@humboldt.edu](mailto:ces54@humboldt.edu);  
Frank Whitlatch, Vice President for University  
Advancement, Humboldt State University,  
[frank@humboldt.edu](mailto:frank@humboldt.edu)





March 19, 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521  
Tom.Jackson@humboldt.edu

Dear President Jackson,

On behalf of the Fortuna Chamber of Commerce, I am writing to offer our congratulations and support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

A polytechnic institution in Northern California would expand opportunity for students and help the state economically. We know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As we understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

The Fortuna Chamber of Commerce has enjoyed our partnership with HSU's wildlife department on the North Coast Otter Art Project and the School of Business where we have benefited from your internship program. We view HSU as vital to the local economy and feel this would be a great thing for our community.

Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes Humboldt State as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources. The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region and our world. Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

PO Box 797 • Fortuna, CA 95540 • (707) 725-3959



Please keep us updated as you seek this important designation and let me know if we can provide additional perspective or be of assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read "Renee Lindsay", is written over the typed name and title.

Renee Lindsay  
President & CEO

Cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University,  
[ces54@humboldt.edu](mailto:ces54@humboldt.edu)

Frank Whitlatch, Vice President for University Advancement, Humboldt State  
University, [frank@humboldt.edu](mailto:frank@humboldt.edu)

PO Box 797 • Fortuna, CA 95540 • (707) 725-3959



March 12, 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson,

On behalf of the Southern Humboldt Chamber of Commerce, I am writing to offer our congratulations and support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

A polytechnic institution in Northern California would expand opportunity for students and help the state economically. We know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As we understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

Our organization recognizes that HSU is an integral part of our local economy; not only does it bring students (who often become permanent residents after graduation), it attracts entrepreneurs who are looking to access University resources as well as visitors attending events on campus. We support the growth and adaption of HSU to a polytechnic university as a benefit for our county.

Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes Humboldt State as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources. The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region and our world.

Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

Please keep us updated as you seek this important designation, and let us know if we can provide additional perspective or be of assistance.

Sincerely,

Leann Greene, Executive Director  
Southern Humboldt Chamber of Commerce  
782 Redwood Drive  
Garberville, CA 95542  
(707)923-2613  
[chamber@garberville.org](mailto:chamber@garberville.org)

Cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University,  
ces54@humboldt.edu  
Frank Whitlatch, Vice President for University Advancement, Humboldt State  
University, frank@humboldt.edu



## Humboldt County Visitors Bureau

March 8, 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street, Arcata, CA 95521

Dear President Jackson,

On behalf of the Humboldt County Visitors Bureau, I am writing in support of your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

A polytechnic institution HSU can expand opportunity for students and help the state economically. There is strong demand in the workforce for STEM graduates and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. We strongly support HSU's intent, and its important place in the life of the county and the unique value it brings, including visitors to our beautiful area.

The Bureau is excited and honored to announce that Dr. Ara Pachmayer, HSU Assistant Professor of Tourism Management, was recently elected to our Board of Directors. Her leadership and relationship with the Bureau will be mutually beneficial for students wishing to learn about the economic importance of tourism, and to bring a fresh perspective to the table. It is also of great importance to tourism that a strong commitment to liberal arts and culture balances STEM.

As an organization, HCVB is looking to the future, learning lessons from this past year and we understand that HSU will be doing the same, reimagining what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region and our world. Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

Please keep us updated as you pursue this important process, and please let us know if we can provide additional perspective or be of assistance.

Sincerely,

*Julie*

Julie Benbow  
Executive Director - HCVB  
Chair - North Coast Tourism Council

cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University,  
Frank Whitlatch, Vice President for University Advancement, Humboldt State University,

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322 First Street, Eureka, CA 95501 • (707) 443-5097 • [www.visitredwoods.com](http://www.visitredwoods.com)

Date: March 16, 2020

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521



Dear President Jackson,

On behalf of Hospice of Humboldt, I am writing to offer our congratulations and strong support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

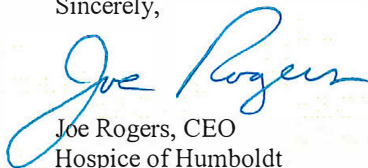
A polytechnic institution in Northern California would expand opportunity for students and help the state economically. There is a great need in the workforce for graduates of this field. This is very evident in healthcare as we have a shortage in nearly every position. We are looking for graduates with a solid education with hands on experience.

Hospice of Humboldt has a close relationship with HSU and its nursing program. I am currently on the community advisory board for the HSU RN to BSN program. We also have an agreement in place with HSU as a clinical site for both nursing and social worker students. We have employed many graduates and look forward to hiring even more. Our community needs these well-trained students. This is even more evident in the rural underserved communities.

Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes Humboldt State as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources. This forward-thinking approach and educational focus is needed by our region and our world. Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

Please keep us updated as you seek this important designation, and let me know if I can provide additional perspective or be of assistance.

Sincerely,



Joe Rogers, CEO  
Hospice of Humboldt

CC: Connie Stewart, Executive Director of Initiatives, Humboldt State University, [ces54@humboldt.edu](mailto:ces54@humboldt.edu)  
Frank Whitlatch, Vice President for University Advancement, Humboldt State University, [frank@humboldt.edu](mailto:frank@humboldt.edu)



Administration  
Connie Beck, Director  
507 F Street, Eureka, CA 95501  
phone: (707) 441-5400 | fax: (707) 441-5412

March 8, 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson,

On behalf of the Humboldt County Department of Health and Human Services, I am writing to offer our congratulations and enthusiastic support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities and employers of the North Coast, and the entire state.

A polytechnic institution in Northern California would expand opportunity for students and bolster the state economically. There is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As we understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

The COVID-19 pandemic has clearly demonstrated the need to develop the scientific workforce that supports our healthcare system. Humboldt DHHS operates the only accredited Public Health Laboratory in Northern California. Our laboratory has been instrumental in local COVID-19 response efforts as well as ongoing environmental monitoring, clinical microbiology and is a member of the national Laboratory Response Network for Biological Threats. In 2019, our laboratory and our highly skilled clinical laboratory scientists were instrumental in the identification of white powder samples found in the mailroom of Pelican Bay Prison, as the deadly toxin Ricin. The critical work done by Public Health would not be possible without a highly trained and skilled workforce. Humboldt State University has been an important partner with DHHS in the advancement of STEM field workforce development – including the work to initiate the Registered Nurse to Bachelor of Science in Nursing program (RN to BSN) in our community.

Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies.



Mental Health  
phone: (707) 268-2990  
fax: (707) 476-4049

Public Health  
phone: (707) 445-6200  
fax: (707) 445-6097

Social Services  
phone: (707) 476-4700  
fax: (707) 441-2096

Humboldt County Department of Health & Human Services

In so many ways, this describes Humboldt State as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources. The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region and our world. Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

The Humboldt County Department of Health and Human Services is pleased to support this important endeavor. If we can provide additional perspective or be of assistance, please do not hesitate to contact me.

Sincerely,

*Connie l Beck*

Connie Beck  
Director





March 23, 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521



Dear President Jackson,

On behalf of Jacoby Creek Land Trust, I am writing to offer our congratulations and support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

A polytechnic institution in Northern California would expand opportunity for students and help the state economically. We know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As we understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

The land trust and Bayside community would greatly benefit from a “new” California Polytechnic University through strengthened and expanded STEM programs that would attract more students, faculty, and resources for academic and partnership programs. Jacoby Creek Land Trust has been working with the Humboldt State University community to provide opportunities for hands-on field studies, capstone projects, and internships since the trust was established in 1992. Student projects inform board decisions related to restoration projects on Jacoby Creek and within the watershed. This model of “service learning” instills an ethic that students embody throughout their lives.

More than seventy percent of Jacoby Creek Land Trust board members hold degrees from Humboldt State, most of which are in STEM disciplines. Their education, professional experience, and relationships within the community support the mission of our organization to support sustainable agriculture and conserve land, water, and wildlife in Northern Humboldt Bay. These HSU alumni give back to the community through their service and JCLT hopes that the establishment of the Polytechnic status will encourage alumni to serve their communities in ways such as this for generations to come.

Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes Humboldt State as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources. The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region and our world. Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants, the economic benefits of which multiply throughout the region.

Humboldt State University has deep and abiding ties to the community of Northern Humboldt Bay and these relationships nourish and sustain each other. We feel that the transformation to a Polytechnic University would serve to strengthen and enhance these connections, benefitting both community and university. Please keep us updated as you seek this important designation, and let us know if we can provide additional perspective or be of assistance.

Sincerely,



Stephanie W. Mietz  
Executive Director  
Jacoby Creek Land Trust  
P.O. Box 33  
Bayside, CA 95524  
707 822-0900

[jacoby creeklt@gmail.com](mailto:jacoby creeklt@gmail.com)

[jclandtrust.org](http://jclandtrust.org)



**McKinleyville Land Trust**  
**P.O. Box 2723**  
**McKinleyville, CA 95519**  
**707-839-LAND**  
**[www.mlandtrust.org](http://www.mlandtrust.org)**

*Board of Directors*  
Leonel Arguello, President  
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Cindy Wilcox, Treasurer  
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Joyce King  
Vicki Ozaki  
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16 April 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson,

On behalf of the McKinleyville Land Trust (MLT), I am writing to offer our congratulations and support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

A polytechnic institution in Northern California would expand opportunity for students and help the state economically. We know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As we understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

The mission of the McKinleyville Land Trust is to conserve local open spaces for ecological, historical, agricultural, educational, recreational, and scenic values. Many on our Board of Directors both past and present are scientists as well as HSU alumni. Over the years, our organization has partnered with HSU's Department of Environmental Science and Management to offer students opportunities for hands-on experience in working with a local land trust and on MLT property. Additionally, students from University organizations such as the Conservation Club have volunteered to help us with activities on our properties to achieve our goals of good land stewardship.

Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes Humboldt State as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths,

including hands-on learning and extensive academic offerings in the sciences and natural resources. The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed to produce leaders that will steward our region and country into a bold new future. The Board believes your efforts to transform HSU would help attract more students, drive up alumni and community support, inspire increased donations, and enable even greater success in acquiring grants.

Please keep us updated as you seek this important designation, and let us know if we can provide additional perspective or be of assistance.

Sincerely,



Leonel Arguello, President  
Board of Directors  
McKinleyville Land Trust

cc: Connie Stewart, Executive Director of Initiatives  
Frank Whitlatch, Vice President for University Advancement



# NORTHCOAST REGIONAL LAND TRUST

March 12, 2021

## BOARD of DIRECTORS

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*Certified Hydrogeologist*

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*Land Use Planner*

Robert Vogt

*Sr. Environmental Analyst*

Mike Wallace

*Environmental Scientist*

### EXECUTIVE DIRECTOR

Dan Ehresman

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson:

On behalf of the Northcoast Regional Land Trust, I am writing to offer our support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California.

Since its founding over 20 years ago, our Land Trust has greatly benefited from partnerships with HSU across several departments and in numerous capacities including conservation planning projects, stewardship events, and environmental research opportunities. HSU has also been an incredibly beneficial conduit for obtaining quality natural resource professionals throughout our organization – from supporters to staff to our Board of Directors. We view HSU as vital not just to our organization but also to our local economy, its workforce, and to the ecological well-being of our region as a whole. We believe HSU's beneficial role would only be heightened with its designation as a polytechnic university.

A polytechnic institution in Northern California would expand opportunities for students and help this region and the state economically. We know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers such as the Northcoast Regional Land Trust seek graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. We recognize these are all important priorities for HSU in seeking to become a polytechnic.

Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes Humboldt State as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources. We believe such a focus would be a benefit to the region.

Sincerely,

Dan Ehresman  
*Executive Director*

Cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University,  
[ces54@humboldt.edu](mailto:ces54@humboldt.edu)

Frank Whitlatch, Vice President for University Advancement, Humboldt State  
University, [frank@humboldt.edu](mailto:frank@humboldt.edu)



707.822.2242 | P.O. Box 398 Bayside, CA 95524 | [www.ncrlt.org](http://www.ncrlt.org)

3/17/21

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson,

On behalf of Hog Island Oyster Company, I am writing to offer our congratulations and support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

A polytechnic institution in Northern California would expand opportunity for students and help the state economically. We know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As we understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

Hog Island is a vertically integrated oyster company, meaning that in addition to farming, we also sell and distribute our product through our own restaurants, wholesale and mail order. The very beginning of this process is the Hatchery/ Nursery system, which is located in Humboldt Bay. Over the last several years, we have worked alongside Humboldt State University by participating in a number of studies and collaborations. Most notably, we have created an internship program. We provide some real world experience in this unique part of the Aquaculture industry, and HSU students are able to help cultivate our product while receiving college credit. The experience has been more than beneficial, and we will be looking to expand the scope of the program as we grow in this location.

Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes Humboldt State as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources. The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region and our world. Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

Please keep us updated as you seek this important designation, and let us know if we can provide additional perspective or be of assistance.

Sincerely,

Lucas Sawyer  
Hog Island Oyster Company

Cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University, ces54@humboldt.edu  
Frank Whitlatch, Vice President for University Advancement, Humboldt State University, frank@humboldt.edu

April, 12, 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson,

On behalf of The Sun Valley Group, I am writing to offer our congratulations and support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

A polytechnic institution in Northern California would expand opportunity for students and help the state economically. We know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As we understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

Sun Valley has been in the Humboldt community for over 50 years, we have worked with the school of Business on a number of programs and have hosted a good number of interns in our company. Through the years we have hired many HSU alumni, in various positions in our business.

Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes Humboldt State as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences

and natural resources. The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region and our world. Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

We have had a great experience with graduates of Cal Poly and some are in senior positions in our company past and present.

Please keep us updated as you seek this important designation, and let us know if we can provide additional perspective or be of assistance.

Sincerely,

Lane Devries  
CEO Sun Valley Group

Cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University, ces54@humboldt.edu  
Frank Whitlatch, Vice President for University Advancement, Humboldt State University, frank@humboldt.edu



March 30<sup>th</sup>, 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson,

I wanted to follow up on our conversation and offer my strong support for HSU's efforts to transform the University into the third polytechnic institution in the CSU system. This would be an enormous benefit to the North Coast and the entire state.

There is obviously strong demand for polytechnic programs as Cal Poly San Luis Obispo and Cal Poly Pomona are particularly impacted. A polytechnic institution in Northern California would greatly expand learning and career opportunities for thousands of students across the region, and help elevate the demand from all corners of the Golden State.

We know that Humboldt State University is already showing strong momentum toward this goal, including launching the Bachelor of Science in Nursing Program just last year. A polytechnic designation will help keep this push going and the new designation would help attract additional students, drive alumni and community support, inspire donations and enable even greater success in acquiring grants.

Humboldt State is beloved on the North Coast and a polytechnic designation will make it an even stronger partner in the decades to come. Please let me know how I can help with these efforts, you know I will be there every step of the way.

Sincerely,

MIKE MCGUIRE  
Senator

Cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University,  
Frank Whitlatch, VP for University Advancement, Humboldt State University





**STEM-NET, Department of Research**  
401 Golden Shore, 6th Floor  
Long Beach, CA 90802-4210

[www.calstate.edu](http://www.calstate.edu)

**Frank A. Gomez, Ph.D.**  
Executive Director

562-951-4774  
E-mail [fgomez@calstate.edu](mailto:fgomez@calstate.edu)

March 14, 2021

President Tom Jackson, Jr.  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson:

On behalf of STEM-NET, I strongly support your efforts to transform Humboldt State University (HSU) into the third polytechnic university in the State of California. This would greatly benefit current and future students, the communities of the North Coast, and the entire state of California.

An institution of this type, situated in Northern California, would expand opportunity for students, many from underserved communities, and help the state economically. There is strong demand in the workforce for graduates from Science, Technology, Engineering, and Math (STEM) fields and applied sciences like health and agriculture. Employers are seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. These are important priorities for HSU in seeking to become a polytechnic.

STEM-NET is the multi-campus collaborative (affinity group) leading STEM initiatives for the 23-campus system based at the CSU Office of the Chancellor. As Executive Director, I have worked closely with your faculty to develop multi-campus collaborative proposals in STEM research and education as well as to disseminate and highlight best practices across the CSU system via webcasts, podcasts and other social media platforms.

Polytechnic universities embrace a "learning by doing" mantra and these experiences are a critical part of the curriculum which shows students how theory combines with application thereby preparing them to use this knowledge to solve humanities big problems. This typifies HSU and the polytechnic designation would position the institution to build on its many strengths in the sciences and natural resources. Thinking ahead to what the 21<sup>st</sup> century university should look like, there is great potential in examining areas impacting students in California related to social justice, renewable energy, climate change and more. Hence, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

**CSU Campuses**  
Bakersfield  
Channel Islands  
Chico  
Dominguez Hills  
East Bay

Fresno  
Fullerton  
Humboldt  
Long Beach  
Los Angeles  
Maritime Academy

Monterey Bay  
Northridge  
Pomona  
Sacramento  
San Bernardino  
San Diego

San Francisco  
San José  
San Luis Obispo  
San Marcos  
Sonoma  
Stanislaus



Please keep me updated as you seek this important designation and let me know if I can be of assistance. I can be contacted at 562-951-4774 or [fgomez@calstate.edu](mailto:fgomez@calstate.edu).

Sincerely,

A handwritten signature in black ink that reads "Frank A. Gomez". The signature is written in a cursive style with a small flourish at the end.

Frank A. Gomez, Ph.D.  
Executive Director, STEM-NET  
CSU Office of the Chancellor

Cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University,  
[ces54@humboldt.edu](mailto:ces54@humboldt.edu)  
Frank Whitlatch, Vice President for University Advancement, Humboldt State University,  
[frank@humboldt.edu](mailto:frank@humboldt.edu)

March 11, 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson,

On behalf of Vero Fiber Networks I am writing to offer our congratulations and support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. This would be an enormous benefit to current and future students, the communities of the North Coast, and the entire state.

A polytechnic institution in Northern California would expand opportunity for students and help the state economically. We know that there is strong demand in the workforce for graduates from STEM fields (Science, Technology, Engineering, and Math) and applied sciences like health and agriculture. Employers are also seeking graduates with hands-on experience, an education grounded in the liberal arts, and a strong understanding of sustainability. As we understand it, these are all important priorities for HSU in seeking to officially become a polytechnic.

Vero Fiber Networks designs, builds and operates high capacity fiber optic networks. We founded the company based on a collective desire to improve fiber connectivity and broadband access for schools (particularly, rural or underserved K-12 schools and facilities). We have been thrilled to work with HSU and see how the University shares our passion for meaningfully expanding connectivity options in the region. We firmly believe that broadband level access to the internet and the associated information and collaborative capabilities are now and will continue to be a foundational requirement to higher education. We view HSU's role as a champion for broadband development and deployment as a critical component of the local economy and a meaningful benefit to the population in the region. We are eager to continue to develop our partnership with HSU and the local community to help drive high capacity network availability in the area.

Polytechnic universities embrace a "learning by doing" approach to education and deliver a curriculum with broad offerings in natural sciences, applied sciences, technology, and engineering, while also maintaining a strong commitment to liberal arts and professional studies. In so many ways, this describes Humboldt State as we know it today. With the official polytechnic designation, HSU would be well-positioned to build upon many of its strengths, including hands-on learning and extensive academic offerings in the sciences and natural resources. The University could also reimagine what is vital for a 21st century polytechnic, with the possibility of focusing on areas such as social justice and equity, climate resiliency, traditional ecological knowledge, science in service to society, renewable energy, and more. This forward-thinking approach and educational focus are needed by our region and our world. Because of that, the new designation would help attract students, drive alumni and community support, inspire donations, and enable even greater success in acquiring grants.

Please keep us updated as you seek this important designation, and let us know if we can provide additional perspective or be of assistance.

Sincerely,  
Zach Nebergall  
Co-Founder and Executive Vice President  
Vero Fiber Networks

Cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University,  
ces54@humboldt.edu  
Frank Whitlatch, Vice President for University Advancement, Humboldt State  
University, frank@humboldt.edu

March 10, 2021

President Tom Jackson, Jr  
Humboldt State University  
1 Harpst Street  
Arcata, CA 95521

Dear President Jackson,

I am writing to offer support for your efforts to transform Humboldt State University into the third polytechnic university in the State of California. As the California Employment Development Department (EDD) labor market consultant for Del Norte, Humboldt, Mendocino, Siskiyou, and Trinity Counties, I would like to take this opportunity to relate to you how a polytechnic designation for HSU could potentially benefit the regional labor markets.

Currently, there is already strong regional demand for graduates from STEM fields and applied sciences like health and agriculture. Humboldt State University is a vital component in supplying the regional labor market, as it is the only four year institution in northwestern California providing trained and skilled candidates for a wide variety of these in-demand occupations. The transformation of HSU into the only polytechnic institution in the north state would significantly increase the university's impact on the regional labor market by growing the number of available STEM, health, and agriculture graduates. The EDD develops 10 year occupational projections for all regions of the state, including the North Coast region, which includes Del Norte, Humboldt, Mendocino, and Lake Counties. According to these projections, there are at least 3,950 job openings in the North Coast region that directly require STEM, health, or agricultural science post-secondary education. In the first quarter of 2018, the median average hourly wage for a baseline sample of these occupations was \$39.66, while the median annual wage was \$82,498, showing evidence that these occupations provide good wage levels for workers.

However, employers from diverse industries report that recruitment for STEM, health, and agricultural science related occupations is chronically challenging, as the region's current production rate of qualified candidates is often not sufficient to meet the demand. Consequently, employers must regularly resort to recruiting candidates from outside the area, a situation which presents its own set of challenges due to the isolated, rural nature of most of our region. Therefore, increased STEM, health, and agricultural science program offerings at HSU, along with a higher number of local graduates in those fields, will be crucial to meeting the STEM related occupational demand in coming years.

Additionally, a polytechnic designation for HSU could be instrumental in building future occupational training for emerging industries like climate resiliency. In a recent review of a California Energy Commission's report on the Blue Lake Rancheria's micro-grid photovoltaic project, I noted that the report included key skills need for workers to operate and maintain a micro-grid operation, such as project management, engineering, data networking, and cyber security. Many of these skills link to current programs and degrees at Humboldt State which, with a polytechnic designation and increased offerings, could increase the regional pool of

qualified workers. The potential for future micro-grid projects appears to be good. Since the debut of the Blue Lake Rancheria's project, several other Humboldt County entities have conducted feasibility analyses to determine if a micro-grid system would be appropriate to their needs. Furthermore, surrounding areas like Mendocino County are also considering micro-grid projects, as well as many other areas of the state, likely adding to the overall need for trained workers. A polytechnic institution in the north state could be uniquely positioned to address both the existing supply-demand gap and potential future labor market demands for these types of climate resiliency projects, helping the local and regional economy to prosper and grow in tandem with principles of sustainability.

Thank you for taking the time to consider my comments. Please keep me updated as you seek this important designation and let me know if I can provide additional perspective or be of assistance.

Sincerely,

Randall J. Weaver  
Labor Market Consultant  
California Employment Development Department  
(707) 441-5706  
[randall.weaver@edd.ca.gov](mailto:randall.weaver@edd.ca.gov)

Cc: Connie Stewart, Executive Director of Initiatives, Humboldt State University,  
ces54@humboldt.edu  
Frank Whitlatch, Vice President for University Advancement, Humboldt State  
University, frank@humboldt.edu



**HUMBOLDT**  
STATE UNIVERSITY