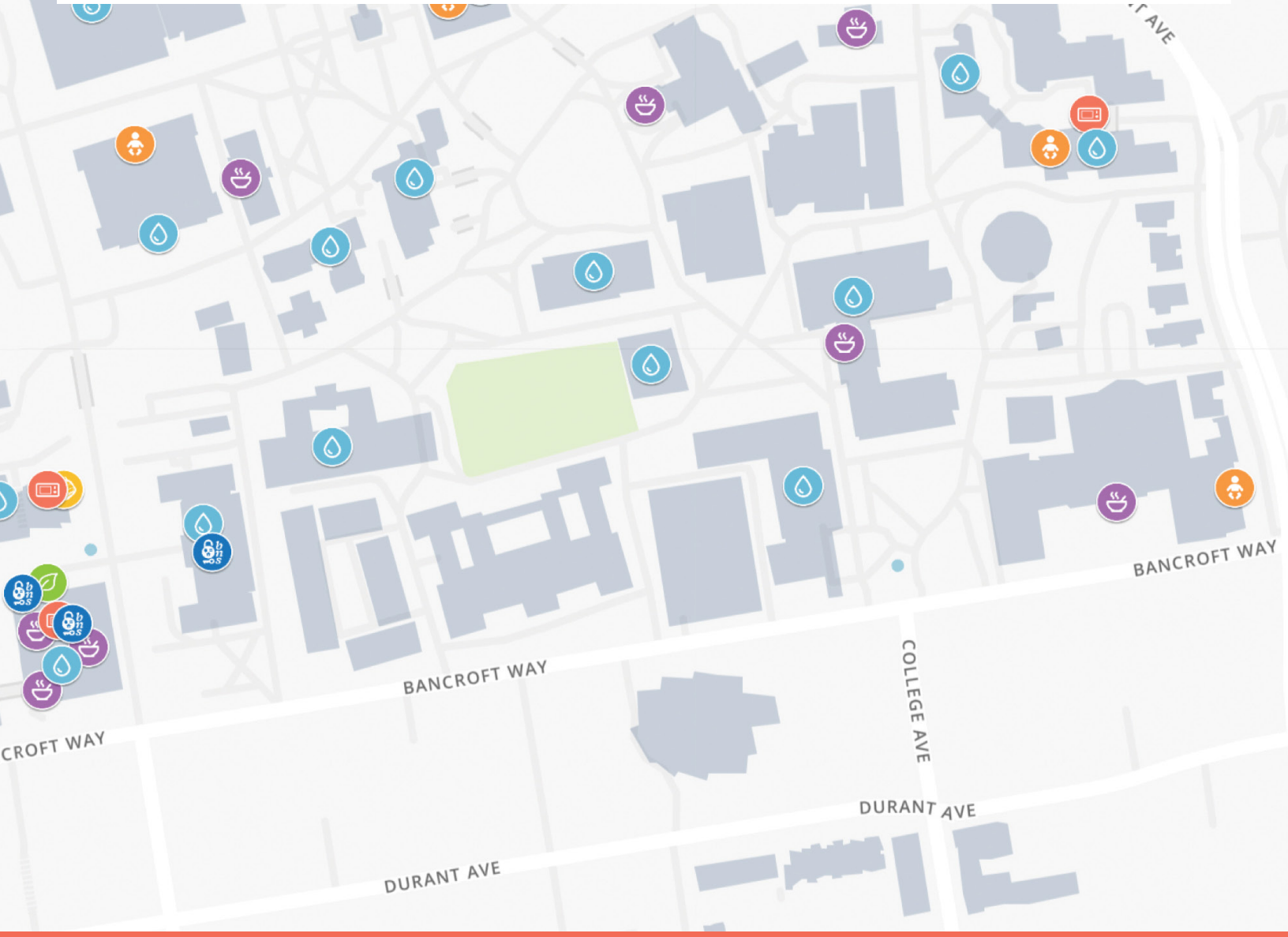
BERKELEY FOOD INSTITUTE

Building Equitable and Inclusive Food Systems at UC Berkeley

THE FOODSCAPE MAPPING PROJECT REPORT

By Rosalie Z. Fanshel, Alastair Iles, and Meg Prier



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About BFI

The Berkeley Food Institute (BFI) at the University of California, Berkeley strives to transform food systems to expand access to healthy, affordable food and promote sustainable and equitable food production. We empower new leaders with capacities to cultivate diverse, just, resilient, and healthy food systems. We focus on three food system themes and emphasize a holistic approach to address these pressing issues: promoting equitable access to good food; advancing fair and healthy jobs in food systems; and accelerating the adoption of agroecology.

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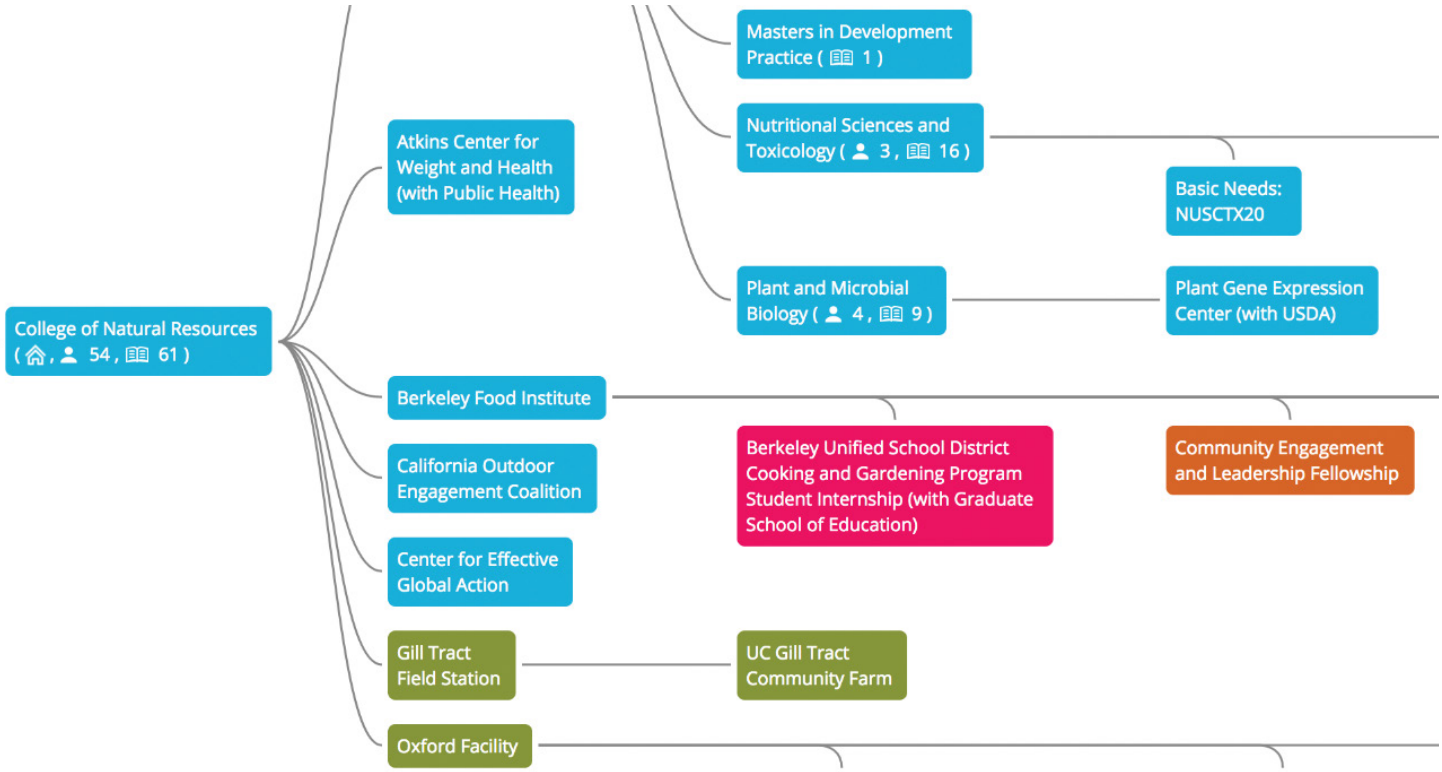


Detail of "Campus Food Players" diagram, organized by formal reporting structure and color-coded by type of governance, to show how decisions and funding travel through the UC Berkeley food system. Data collection by Angelina Amezuca, Will Payne, and Dennis Uyat. Visualization by Will Payne using Treant.js.

INTRODUCTION

The University of California, Berkeley is experiencing an unprecedented surge of interest in food and agriculture, as reflected by its academic and educational programming, student-led initiatives, and community outreach activities. And yet, as passion for food and justice grows across campus, many community members still encounter major obstacles to meaningfully diverse, equitable, and inclusive experiences in the campus food system. In fact, a 2014 Campus Climate Survey revealed that one out of every four members of the UC Berkeley community experience exclusion based on some aspect of their identity.[1] Simultaneously, 39 percent of undergraduates and 23 percent of graduate students experience food insecurity, forced to choose between paying for food, housing, and other basic needs while attending school in one of the most expensive areas of the country.[2] Many staff—particularly UC Berkeley's lowest-paid workers, which includes food service and custodial staff, as well as lecturers and postdoctoral fellows—also struggle with basic needs security.

The growing food movement on campus thus presents a strategic opportunity to address the need to transform our campus climate, fully integrating diversity, equity, and inclusion into Berkeley's programs, capacity building, and campaigns. Led by the Berkeley Food Institute (BFI) since 2015, the Building Equitable and Inclusive Food Systems at UC Berkeley project has brought together more than 150 collaborators from across campus to bridge the gaps between our campus food system and the communities it serves.

As part of this project, the UC Berkeley Foodscape Map offers extensive data on the structural factors affecting the UC Berkeley food system, highlighting a variety of food-related activities on campus through the lenses of diversity, equity, and inclusion. Developed through ongoing community dialogue and student research projects, this map aims to both reveal barriers to the full participation of historically marginalized community members in food-related learning and practice, and highlight opportunities for—and successes in—overcoming such obstacles.

BFI envisions a campus where all members of the UC Berkeley community experience just and nurturing food experiences, whether in teaching, researching, working, learning, growing, or eating. In this vision:

- Every member of the campus community is basic needs secure: they have adequate and healthy food and housing, and are financially stable.
- Every member of the campus community feels welcomed and empowered to engage in food- and agriculture-related research, study, and work.
- Research, educational, and student group spaces actively strive to create structures that institutionalize diversity, equity, and inclusion by participating in self-reflective processes that feature the voices of historically marginalized communities.
- Community-based participatory research methods are uplifted so that Berkeley faculty, students, and staff contribute to addressing the pressing food systems issues affecting the people of the state of California and beyond.
- The UC Berkeley campus landscape includes flourishing food gardens for the purposes of hands-on research, education, and food production, as well as providing spaces for mental, emotional, and physical well-being.
- All campus food service workers have fair and healthy jobs. Namely, they receive equitable compensation and benefits, work in healthy and safe conditions that are free from harassment, and have opportunities for career advancement and for controlling their shift hours.
- The food flowing into campus via campus eateries and catering is sustainable, just, healthy, affordable, delicious, and culturally appropriate to our diverse population.

We take seriously the campus food movement's important role in upholding the UC Berkeley Principles of Community, particularly in: recognizing the intrinsic relationship between excellence and diversity in all our endeavors; affirming the dignity of all individuals and striving to uphold a just community in which discrimination and hate are not tolerated; addressing the most pressing issues facing our local and global communities through our educational mission; and embracing open and equitable access to opportunities for learning and development as our obligation and goal. "Every member of the UC Berkeley community has a role in sustaining a safe, caring and humane environment in which these values can thrive."[3]

The following policy recommendations are a companion piece to the Foodscape Map. These recommendations focus on four campus governance structures, and are aimed at leadership bodies noted within each category as "Campus Influencers."

1. **Academic Units**
    a. Food and Agriculture Courses
    b. Accessibility of Agricultural Research Facilities for Persons with Disabilities
2. **Campus Facilities**
    a. Agricultural Research/Education and Student Housing Needs
    b. Campus Catering
    c. Campus Eateries
    d. Microwaves and Water Refill Stations
    e. Campus Gardens
3. **Service Units**
    a. Basic Needs Security
    b. Wellness Program for High Injury Job Classifications
    c. Lactation Rooms
4. **Student Leadership**
    a. Food-related Student Groups
    b. Greek Life
    c. Student Cooperatives

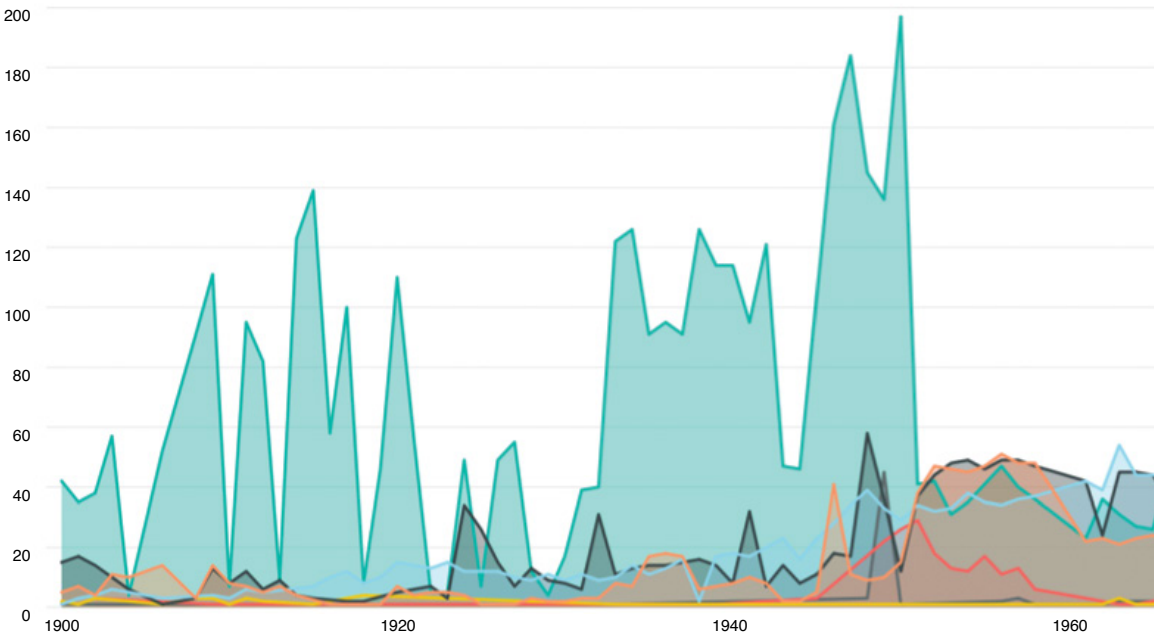
FOOD AND AGRICULTURE COURSES

How has UC Berkeley's food and agriculture coursework changed over time, and how have diversity, equity, and inclusion factored into Berkeley's pedagogical approach to food and agriculture studies?

Foodscape Map: Food and Agriculture Courses

Under the federal Morrill Act, which established a national system of research stations to foster teaching and research related to agriculture, UC Berkeley became the first state-run agricultural experiment station and the first land-grant college in the western US. Food and agriculture have been at the core of UC Berkeley's pedagogy since its founding in 1868.[4] In fact, between 1900 and 2010, over 13,500 courses related to food and agriculture have been taught at Berkeley.[5] More than half of these courses have been offered at the current-day College of Natural Resources.

From the university's founding through the 1950s, Berkeley emphasized field-based agricultural education, with extensive hands-on courses in fruit, vegetable, and forage crop production; livestock production and animal husbandry; farm machine maintenance; food preparation and preservation; and farm management. The University Farm in Davis, established in 1908, was the principal teaching location for field-based courses. In 1959, the University Farm became part of the new University of California, Davis campus; primary food production courses ended at Berkeley, except for one poultry husbandry



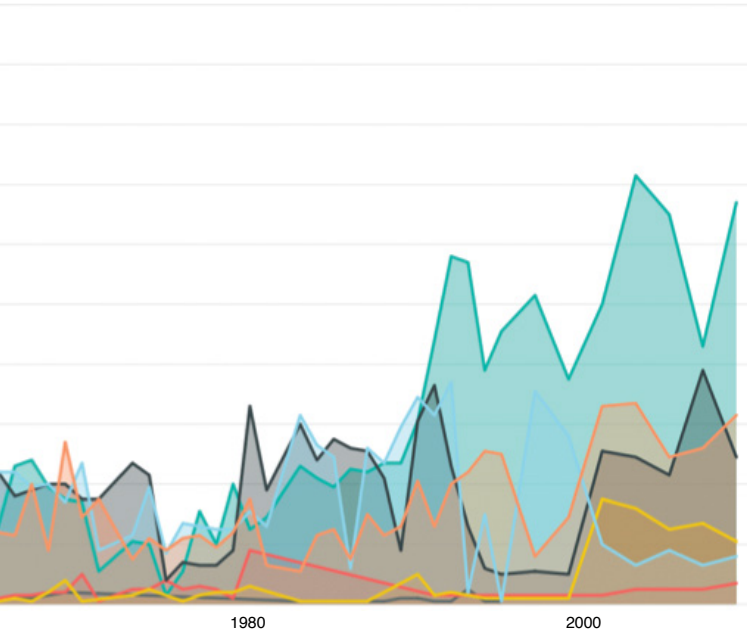
Changes in the disciplinary concentration of food and agriculture courses between 1900 – 2010. The pie chart reflects aggregate data for the full time period. Data collection by Zach Beemer, Nathalie Munoz, and Natalia Semeraro. Visualization by Boyue Xu.

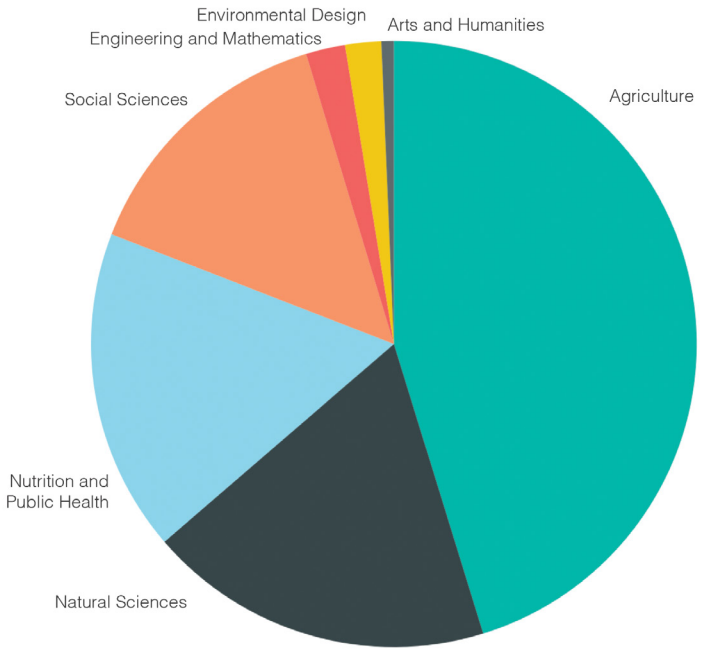
class which continued through 1967. While Berkeley began offering a specifically urban agriculture course in the early 1980s, when Miguel Altieri joined the faculty, the loss of hands-on food production coursework drastically changed UC Berkeley's pedagogy. On the other hand, coursework in pest management and soil science continues to this day. UC Berkeley was a leader in the development of biological pest control from the 1950s through the 1970s, with faculty such as Robert van den Bosch guiding the discourse on integrated pest management. Since the 1980s, molecular biology courses have been taught as part of agriculture's turn toward biotechnology.

As a land-grant institution, UC Berkeley research and education historically had an explicit extension component. In addition to comprehensive research in all aspects of agricultural production and food science through the 1950s, Berkeley's coursework also focused on outreach, with similar courses continuing through today. Sample classes include "High School Farms, Gardens, and Community Work" (1914), the "Practice of Teaching Vocational Agriculture" (1920s–1930s), and coursework through the 20th century on nutrition and food service in institutional settings.

Hygiene, household science, food preparation, and nutrition have been offered since the 1900s through a series of changing departments, including Physical Culture (1900s), Home Economics (1910s–1956), Public Health (since 1944), Nutrition and Home Economics (1957–1961), and Nutritional Sciences (1962–present). Health and nutrition courses from the 1900s through the 1930s were segregated by gender, with "military hygiene" restricted to male students and "personal, public, and child hygiene" for female students. A course taught for women between 1925 and 1935 on personal hygiene offered eugenics along with food selection: "A consideration of physical and mental wellbeing. The effect of exercise and fatigue, the proper selection of food, the means of avoiding infections... mental and emotional habits, reproduction, child hygiene, and the hygiene of the race through heredity will be considered in lectures, readings, and recitations." In 1937 and 1938 a similar food eugenics course was offered, with separate sections for men and women.

As late as 1970, the Department of Nutritional Sciences offered courses on "The Contemporary American Family." At this time, course descriptions focused on the impact of modern culture on the family, and were taught by Judson Taylor Landis, who had been with the department since 1950 and published on such topics as "Building a Successful Marriage."[6]





Gender disparity was not restricted to students: male faculty were listed in the course catalogue as "Professor" or "Doctor" or simply by their family name. Until 1980, female professors were listed as "Miss."

As a precursor to UC Berkeley's current Nutritional Science and Toxicology course "Personal Food Security and Wellness," during the Great Depression of the 1930s the Department of Household Science taught, among several similar courses, "Household Economics: Family finance, including savings, insurance, and investment; cost factors in menus for small and large groups; budgeting and costs of food, clothing, housing, and equipment, according to income levels; criteria for consumers' goods; scheduling household processes; control of standards; impact of changing economic systems on the family and adjustments needed."

Berkeley has long been a leader in the field of agricultural economics, with courses dating back to the 1900s, and particularly gaining strength in the 1920s. Agricultural labor was first discussed in 1920.[7] Food and agricultural law courses also date back to the 1900s, with the first Food and Drug Law class taught in 1914. In 1932, UC Berkeley began offering seminars in Agricultural Policy, with a significant increase in such courses during the 1950s and 60s, and continuing into the 1980s. The last seminar titled "Agricultural Policy" was taught in 2003. In the 1950s and 1960s, UC Berkeley food and agricultural social science coursework turned toward a global approach, from Cold War-influenced economics, law, and political science courses on the Soviet Union and China, to geography courses on "the economic potentialities of the tropics and the obstacles to their exploitation inherent in the physical and cultural environment," to public health classes on nutrition problems and specific population groups around the world. Domestic social science coursework also started to focus on questions of political power and influence.

In the 1970s, we see the effects of the Ethnic Studies Strike of 1969 and other social movements. Food and agriculture course descriptions begin to express community empowerment, revolutionary politics, resources for people with disabilities, community-

The Ethnic Studies Strike of 1969. Photo courtesy of Department of Ethnic Studies, UC Berkeley.

oriented nutrition, and indigenous knowledge. Since this era, food and agricultural coursework in the social sciences, landscape architecture, and public health have continued to reflect progressive viewpoints, with a recent emphasis on political ecology, environmental justice, agroecology, and intersectionality. In the last two decades, Berkeley has seen a growth in interdisciplinary approaches to food and agriculture, particularly in the Department of Environmental Science, Policy, and Management (ESPM), with such courses as ESPM 226, which addresses "the ecological, social, and economic resilience inherent in different forms of agriculture, from highly diversified, agroecological farming systems to industrialized agriculture."[8] Through the "Conservation and Resources Studies" and "Society and Environment" majors (College of Natural Resources) and "Interdisciplinary Studies Field" major (College of Letters and Science), many undergraduates have created their own courses of study in food systems. Since 2015, ESPM has offered the undergraduate Food Systems Minor, an effort that was instigated by students, and supported by the Berkeley Food Institute. In spring 2018, BFI submitted a proposal for a cross-disciplinary Graduate Certificate in Food Systems for master's and PhD students, which is currently under review by Graduate Division.

However, food studies courses at UC Berkeley currently fall behind national trends. Whereas other universities offer food studies coursework in policy, law, business,

history, politics, and philosophy, among others, most opportunities at UC Berkeley center on natural sciences, public health, and economics, with some geography and sociology.[9] For hands-on education in food production, UC Berkeley's current offerings pale in comparison to other leading agricultural colleges.[10] A cross-disciplinary approach to food systems education would better prepare Berkeley students to contribute to larger food systems change.

Policy Recommendations

- Increase and diversify agricultural and food course offerings at both the undergraduate and graduate level in law, business, public policy, anthropology, ethnic studies, history, political science, philosophy, city and regional planning, and landscape architecture. Apply intersectional frameworks to the study of food and agriculture, including theoretical courses that introduce students to the specific disciplinary methods and discourses that have influenced the development of food systems studies. Explicitly engage with the historical context around race, class, gender, and colonial relations that formed food systems.
- Improve student learning outcomes by innovating pedagogical methods to address pressing food systems issues through problem-driven learning, clinics, client-based projects, interdisciplinary research, and experiential, hands-on learning.[11] Provide course development funds to faculty to expand these teaching methods.
- Support growth of the undergraduate Food Systems Minor and proposed Graduate Certificate in Food Systems (currently under review by Graduate Division, as of fall 2018), to empower students with interdisciplinary courses of study to think critically about the multi-level, multi-system factors that affect food production, distribution, consumption, and disposal, locally, nationally, and globally. The proposed certificate core course takes a solutions-oriented approach to addressing critical problems in current food systems, exploring strategies used by the disciplines of agroecology, policy, law, public health, and business and applying their varied approaches to real-world case studies.
- Renew opportunities for field-based agricultural education, with an emphasis on the production and food access needs of a diverse urban population. Field-based learning allows students to work closely with faculty to design and implement impactful experiments, and encourages greater student integration into existing community-based garden and food production projects.

Urban Garden Ecosystems course at the Oxford Tract Research Facility. Photo by Rosalie Z. Fanshel.

Campus Influencers

- Vice Chancellor of Undergraduate Education, currently Catherine Koshland
- Vice Provost for Faculty, currently Benjamin Hermalin
- Vice Provost for Graduate Studies and Dean of the Graduate Division, currently Fiona Doyle
- Academic Senate Committee on Courses of Instruction
- College/School and departmental level committees on instruction
- Individual faculty
- American Cultures Engaged Scholarship Program

ACCESSIBILITY OF AGRICULTURAL RESEARCH FACILITIES FOR PERSONS WITH DISABILITIES

What are the barriers for students, faculty, and staff with disabilities in accessing UC Berkeley's agricultural research/education spaces, and what steps can the university take to create more inclusive facilities and learning environments?

Foodscape Map: Accessibility at Research Spaces

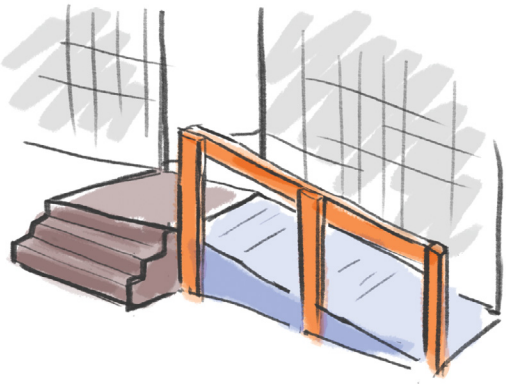
UC Berkeley has three agricultural research and teaching facilities close to campus: the Oxford Tract, Gill Tract, and Student Organic Garden. (The latter, while primarily a student-run garden, hosts Environmental Science, Policy, and Management course 117, "Urban Garden Ecosystems.")[12] Through site surveys, analysis of state and federal law regarding discrimination and disability, and interviews with UC Berkeley students and staff, we found that none of the facilities complied with the 2010 Americans with Disabilities Act (ADA) Standards for Accessible Design. Moreover, qualitative evidence from students specifically indicates that physical, financial, and knowledge barriers foster exclusion in agricultural research and field-based education.

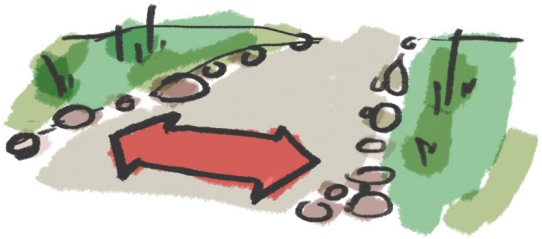
At the Oxford Tract, for example, all three types of barriers are in place. Paths between production rows are far narrower than the 36 inches required by ADA Standards and the main entrance to the facility does not have a ramp. For classes held at the Oxford Tract, accommodation expenditures for students with disabilities are expected to be taken from the faculty's class budget or paid for directly by the students. Faculty, graduate student instructors, and facilities managers do not receive training in disability accommodation and often do not display knowledge or sensitivity in working with students and staff with disabilities.

> *"From being in [agricultural research] spaces, I can see that they do not keep up with disability compliance and it creates a lot of barriers to access...We use funding for supplies rather than accessibility within these research spaces." ~ UC Berkeley Undergraduate Student*

> *"On a personal level, there have been experiences in my education where I feel uncomfortable because the environment is physically or socially inaccessible, making me question whether or not I belong in science." ~ UC Berkeley Undergraduate Student*[13]

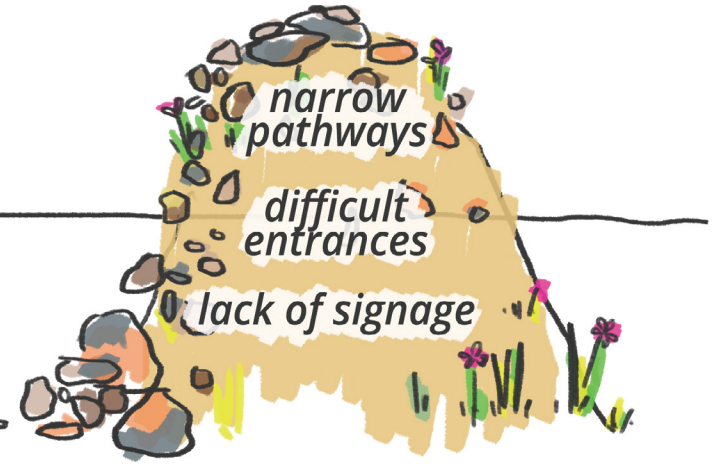
Data collection by Jenna Shelton. Visualization by Barbara Yang.





Policy Recommendations

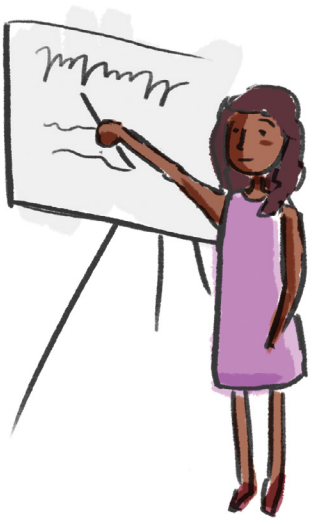
- Physical barriers: Widen facility pathways to a minimum of 36 inches, as required by ADA Standards for Accessible Design; ensure all facility entrances allow for wheelchair accessibility; add braille or raised character signage; and provide an integrated 2.5-foot high garden bed for wheelchair users and semi-ambulatory persons.



- Financial barriers: Use land-grant funding to provide disability accommodations within the agricultural research and education spaces, removing the financial burden from individual classes or facilities.
- Knowledge barriers: Provide resources to institute universal design in classes, using the University of Washington DO-IT program as a model; have accommodation in mind when designing a field-based course so that faculty are prepared for helping students with accommodations as needed; and provide disability sensitivity training for faculty, graduate student instructors and researchers, and staff. Focus on fixing the built environment rather than "fixing the student." Work with students and staff to identify particular needs.

Campus Influencers

- Dean, College of Natural Resources, currently David Ackerly
- Deans of each college/school with food and agriculture courses
- Disability Compliance Office
- Disabled Students' Program
- Faculty Coalition for Disability Rights
- Vice Chancellor of Equity and Inclusion, currently Oscar Dubón, Jr.
- Vice Provost for Faculty, currently Benjamin Hermalin
- Vice Provost for Academic Planning, currently Lisa Alvarez-Cohen



AGRICULTURAL RESEARCH/ EDUCATION AND STUDENT HOUSING NEEDS

What is the future of agricultural research and learning in a dense urban setting with limited affordable housing?

Foodscape Map: Hot Spot: Oxford Tract

UC Berkeley is located in one of the most expensive housing markets in the country. The East Bay has seen rapid growth in rent levels since 2010, particularly with the growth of the Bay Area tech and biotech industries.[14] At the same time, yearly in-state undergraduate tuition and fees have increased from $8,383 in 2007 to $17,000 in 2018.[15] According to new campus figures, about 96 percent of first year undergraduates live in university housing, but overall, only 25 percent of undergraduates do so.[16] Most students must enter the private housing market, and therefore are in a parlous predicament of being squeezed between high, and ever-growing, housing, food, and campus expenses. Lower-paid staff, especially food service workers, lecturers, postdoctoral fellows, and new assistant professors in the social sciences and humanities, also confront harsh housing affordability conditions. As the university becomes more accessible to California's diverse people, a rapidly expanding student population has contributed to the competition for housing in close proximity to campus.

> *"Longer commutes lead to reduced opportunities to become integrated into the academic and social fabric of the campus, a situation that results in potentially negative student outcomes—reduced student engagement, lower student persistence, and a longer time to degree, along with isolation and resulting adverse consequences." ~ Housing Master Plan Task Force Draft Report, January 2017*[17]

It was not until the past few years that UC Berkeley began to look more systematically into expanding student housing options in real earnest. The university is one of the largest landowners in the City of Berkeley, holding numerous properties around campus in addition to its Central and Clark Kerr campuses (alongside the University Village in Albany and the Richmond Field Station). There is potential for redevelopment of multiple vacant lots, car park structures, and buildings no longer in use (e.g., the old UC Press and former Berkeley Art Museum buildings). Indeed, one positive step has been building the new David Blackwell Hall on Bancroft Way—named for Berkeley's first tenured black professor—which opened in August 2018. Nonetheless, the university has lagged behind in providing affordable housing to its students compared to other UC campuses.

This search for housing development has brought into view a deep challenge: must new student housing necessarily displace or weaken UC Berkeley's food and agriculture research and educational facilities?

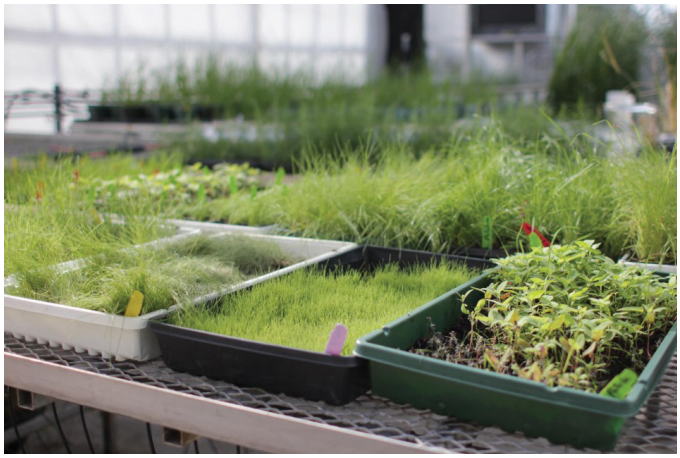
The Oxford Tract Research Facility. Photo by Google Maps, via *East Bay Times*.

In January 2017, the UC Berkeley Housing Master Plan Task Force identified the Oxford Tract Research Facility as a site of high priority for development of new student housing. It projected that 1,000 to 3,000 beds could be provided through traditional high-rise dormitory towers. It noted: "Existing academic research will need to be relocated. Food service operation will need to be included, as well as other uses that will need to be studied further (such as parking, retail, student support areas, etc.)"[18] Eight other possible sites were identified, but it is clear that Oxford Tract is viewed as offering a particularly large scope for redevelopment. In summer 2016, then Interim Executive Vice Chancellor and Provost Carol Christ formed the Oxford Tract Planning Committee (OTPC) to appraise the costs and benefits of reconfiguring and/or relocating the current functions of the Oxford Tract.

The OTPC released a report on February 1, 2018,[19] recommending the next steps for evaluating the impact on College of Natural Resources (CNR) research, teaching, and outreach if the Oxford Tract were indeed to become a site for student housing. It presented two options for trying to integrate some facilities with student housing, and suggested that more research be done on possible configurations as well as on other places where the facilities could be moved. In any redevelopment scenario, Oxford Tract would shrink greatly, and at least some of the facilities would still need to be moved.

The report did not include a formal economic analysis. It did explain that Oxford Tract is used intensively for research and teaching relating to agriculture, plant biology, and biofuels precisely because it is so close to campus. Its use fulfils CNR's land-grant mission, dating back to the founding of the university in 1868. Oxford Tract includes three greenhouses, plant growth chambers, an insectary, laboratories, a quarantine facility, and 1.5 acres of farmland for field experiments. If the Oxford Tract facilities were to be moved elsewhere, students, staff, and faculty would have to travel much further to other sites. This could impede research experiments, field laboratory sessions,

and teaching. At least five courses and three DeCals use the farmland for their class activities. Over 40 professors, more than 200 researchers, and hundreds of students would be affected. The facilities would need to be rebuilt elsewhere, at a cost that has not yet been determined. The Oxford Tract area is also home to the Student Organic Garden, which has existed since 1971 and has served as an extremely valuable site for many generations of students to learn hands-on skills in agriculture.



The Oxford Tract Research Facility Greenhouses. Photo by the Department of Plant and Microbial Biology.

Supplementing the OTPC study, the work of Environmental Economics and Policy undergraduate and Haas Scholar Allegra Saggese proposes that the context of climate change and non-monetary values must be considered in analyzing current and future uses of the Oxford Tract site. If a traditional cost-benefit analysis is used to assess the value of student housing versus the existing Oxford Tract, development looks much more lucrative and positive. But if costs and benefits are expanded to include non-economic impacts (e.g. student learning, new climate-resilient agricultural methods and technologies, transportation time, or ecosystem services), the calculations change greatly. If the cost-benefit analysis integrates metrics for measuring climate uncertainty, changes in valuation of future costs and benefits, and ecological principles of resource constraint, development looks less valuable. It is also currently unclear whether this housing would be more affordable to students than the private market, given the public-private partnerships under discussion.

Saggese's research suggests that, overall, the public benefit of agriculture research may exceed the benefits provided by limited undergraduate housing. In years to come, demand for sustainable agriculture research and education will continue to increase, given climate change's impact on agriculture production, along with the value of food system development. The Oxford Tract's unique position as an urban agricultural research and education facility that is core to the College of Natural Resources means that UC Berkeley can contribute much more to finding adaptive solutions to a changing environment. New CRISPR ("gene editing") research might also contribute to these solutions but will require actual field experiments to be translated into practice. Because climate change disproportionately affects low-income communities of color across the Bay Area and in California, climate-resilient agricultural research is fast becoming an equity and inclusion issue.[20] Moving the facilities might also undermine campus equity and inclusion by making it even more difficult for underrepresented, disabled, and low-income students to engage with gardens and courses.

As noted, multiple other sites around campus could be redeveloped for student housing, without displacing or weakening UC Berkeley's food and agriculture programs. These sites may have very different cost-benefit analyses (e.g. a car park structure at a time when car use may need to be reduced due to climate impacts, or a dilapidated building with low ecosystem services). In these circumstances, targeting an important component of UC Berkeley's food system without seriously considering other options for building student housing may create a false opposition between food and agriculture research on one side and education and housing for students on the other.

Policy Recommendations

- Make land use decisions which reflect the goals of the UC Zero Waste by 2020 and the UC Global Food Initiative, which include but are not limited to "us[ing] the power of UC research and extension to help individuals and communities access safe, affordable, and nutritious food while sustaining our natural resources."[21]

- Investigate other viable student housing sites before any decision to use Oxford Tract or other Berkeley-owned agricultural lands, with priority being given to options that would provide affordable housing for low-income students (meaning below market-rate).
- Account for UC Berkeley's role as a public sector entity that is obliged to "optimize" California's public welfare by considering both the larger context of food and agriculture and student housing. Ask how much social benefit Californians receive through market relief of housing students on campus instead of private rentals, and how much social benefit Californians receive from the public research, teaching, and innovation occurring at Oxford Tract.
- Engage students, faculty, and community members in expanding cost-benefit models to include more advanced and progressive metrics that use ecological economics premises: include a much broader range of costs and benefits; move away from simply relying on readily monetized measures; and properly assess the issues according to the needs of generations of students and Californians over the next few decades.
- Expand input into evaluation beyond the current emphasis on administrator, financial, and real estate advice to include expert assessment on requirements for instructional and research purposes. Many on-campus organizations and researchers can provide this expertise, including the College of Environmental Design and Haas School of Business's Terner Center for Housing Innovation; College of Environmental Design's Institute of Urban and Regional Development; the College of Natural Resources, including the Energy and Resources Group; and the Berkeley Center for Law and Business at Berkeley Law.
- Undergo a transparent and inclusive decision-making process to address the campus housing crisis. Increase engagement in campus decision-making through strategies such as participatory budgeting, outreach to the City of Berkeley and to the campus community, and distributive weighting toward the needs of affected faculty, students, and researchers at the Oxford Tract.
- Work toward strengthening UC Berkeley's field sites, scientific infrastructure, and teaching facilities as part of a concerted campus-wide strategy to make the university a world-leading place of sustainable agriculture and food innovation. This is not incompatible with rapidly increasing affordable student housing. UC Berkeley can lead the way in showing we can have both better housing and better urban food systems, and thus rethink the prevailing paradigm of urban development.

Urban Bee Lab at the Oxford Tract. Photo courtesy of the Urban Bee Lab.

Campus Influencers

- Dean, College of Natural Resources, currently David Ackerly
- Director, Physical and Environmental Planning, currently Vini Bhargava
- Oxford Tract Planning Committee
- Housing Task Force
- Capital Strategies Department
- Chancellor, currently Carol Christ
- Defend the Oxford Tract Community
- Homeless Student Union
- Student Organic Garden Association

CAMPUS CATERING

What would "sustainable and just" catering at UC Berkeley look like?

Foodscape Map: Sustainable and Just Catering

Because UC Berkeley provides food for hundreds of meeting and events weekly, catering plays a significant role in the UC Berkeley food procurement landscape. Our campus has an opportunity to offer "sustainable and just" catering in alignment with UC Berkeley's Principles of Community, namely, by recognizing the intrinsic relationship between diversity and excellence in all our endeavors; addressing important pressing issues facing our local and global communities; and providing equitable access to opportunities for development. The Berkeley Food Institute has compiled detailed guidelines for departmental use based on the combined values of Diversity, Equity, and Inclusion; Environmental Sustainability; Food Recovery; Health and Nutrition; and Labor, together with a sample list of vendors who meet these values.

Departments can currently pay for catering through three methods: A purchase order set up in advance with a vendor; an after-the-fact payment to a vendor; or via reimbursement to staff, faculty, or students who pay for catering through their personal credit cards. There is a disincentive for caterers to do business directly with the university, as Berkeley's default payment schedule is net 30 days, an inequitable burden on small businesses. Yet it is also a strain on Berkeley employees and students to pay upfront. To address this issue, departments can request that vendors be set up as "Net Zero" in Berkeley's Supply Chain Management System.

Policy Recommendations

- Widely distribute the BFI Sustainable and Just Catering Guide and Sample Vendor List to departments, centers, administrative units, student groups, and other campus entities.

Chef Aileen Suzara of Sariwa Kitchen at a Berkeley Food Institute event. Photo by Jonathan Fong.

- Set up preferred catering vendors as Net Zero so as to encourage small, diverse vendors to do business with the university and relieve the burden on staff, faculty, and students to cover catering costs. When filling out the UC Berkeley Substitute W-9 and Supplier Information Form, note that the vendor should be set up as Net Zero. To change an existing vendor to Net Zero, email Lorane Washington.
- Track Sustainable and Just Catering qualifications in BearBuy so that vendors are easily recognizable in the system when staff set up purchase orders; departments and other campus units should require preferential procurement from vendors that meet these qualifications, when possible.

Campus Influencers

- Supply Chain Management Procurement Team
- Individual staff at departmental level who are responsible for arranging catering for events
- Be Well at Work – Wellness Program
- Berkeley Events Network
- Berkeley Sustainability and Energy
- Cal Zero Waste

CAMPUS EATERIES

What is the state of UC Berkeley campus eateries? How can they better serve nourishing, affordable, and culturally appropriate food while providing good wages, benefits, and working conditions to dining staff and furthering the university's efforts to drive sustainability and social justice in and beyond the Berkeley community?

Foodscape Map: Geographic Map

As of spring 2018 there are nearly 50 on-campus eateries open for business at UC Berkeley. They are divided into residential dining, residential retail, on-campus restaurants (the majority of which are leased dining facilities), and special-event food service.

Campus eateries affect a wide variety of constituencies:

- Diners, primarily but not entirely UC Berkeley students, faculty, and staff
- Full-and part-time food service staff, and part-time student workers
- Vendors and food suppliers working with campus eateries
- Local, regional, and global communities affected by the aggregate impact of purchasing and labor rights decisions

All diners on campus—but especially students, who are often operating on constrained budgets and experience food insecurity at high rates—should be able to access affordable, nutritious, sustainable, and culturally appropriate food. One solution to the issue of affordability might be to require campus eateries to offer two-tier pricing systems, such that students and staff on hourly wages pay 10 percent less than other customers.

Brown's: A California Café, an on-campus restaurant run by Cal Dining. Photo by Elena Zhukova.

All food service workers should have fair and healthy jobs. Namely, they receive equitable compensation and benefits, work in healthy and safe conditions that are free from harassment, and have opportunities for career advancement and for controlling their shift hours. Staff working 50 percent time or higher at facilities operated by Cal Dining are eligible for UC Berkeley's full benefits package. Cal Dining currently has just over 200 full time staff (40 hours/week) with full benefits, 110 partial-year staff (40 hrs/week for nine months) with full benefits, and 42 limited staff with mid-level benefits. Cal Dining food service employees are represented by the AFSCME Local 3299 union. Of note, AFSCME members have been working under an expired contract since June 30, 2017.[22] Cal Dining's 540 part-time student workers are not eligible for benefits and are not members of the union.[23] Cal Dining runs 38 percent of campus eateries (as measured by number of eateries). Workers at leased facilities and at catered events—where workers come in from outside the university—are not subject to UC Berkeley employment contracts.

Cal Dining also upholds high sustainability standards and is recognized nationally as a green leader in university and other institutional food services.[24] Cal Dining focuses on "plant-forward" cooking; prioritizes sourcing ingredients that are locally grown, humanely-treated, and environmentally and socially responsible; has extensive waste reduction and reuse programs; and operates in certified green buildings.[25] Leased dining facilities are not subject to the same standards.

One troubling trend over the past several years has been the closure and replacement of Cal Dining-operated facilities like Qualcomm Cyber Café and Ramona's with Yali's Qualcomm Cafe and Rice and Bones, respectively, which are not held to the same standards of labor rights and sustainability. While Yali's appears to offer comparable options to the former Cal Dining eatery in price and nutrition, and Rice and Bones brings contemporary Asian food from well-regarded local chef and Cal alumnus Charles Phan, the latter is significantly more expensive than Ramona's. UC Berkeley is under real pressure to cut costs and find revenue opportunities, including through real estate partnerships and licensing deals. However, Cal Dining is already a net contributor of funds to the rest of the campus while maintaining accountability to campus values.

Another trend is toward corporate-run eateries. Eight out of 26 leased dining facilities on campus are run by Chartwells and Bon Appétit, subsidiaries of the Compass Group, the Britain-based largest food service company in the world. Compass Group has faced numerous scandals and legal settlements, from bribing UN officers for contracts, to overcharging and mismanaging New York and Washington, DC, school lunch programs. When working with outside contractors, UC Berkeley has the opportunity to support the values that align with the UC Berkeley Principles of Community. (See more on these values under Campus Catering above). The decision by the Associated Students of the University of California and Graduate Assembly Board Operations Committee to replace Chartwells with pop-up eateries featuring graduates of the La Cocina incubator kitchen at Martin Luther King, Jr. Student Union in spring 2018 was a hopeful step toward diversifying campus eating options and contributing to the growth of small, community-owned operations run by people of color.

UC Berkeley is currently in year seven of a 10-year contract with PepsiCo for beverage service across Cal Dining, vending machines, and special event food services. Any future contract negotiation for beverage service should be weighed very carefully against other options, given the large negative health and sustainability impacts PepsiCo and other multinational food corporations are currently having on the world, their continued funding of biased studies to bolster their own profits, clumsy appropriation of social movements' messages in their advertising, and their resistance to any efforts to address the effects of their products through regulation and taxation (in the Bay Area, the country, and the world).

UC Berkeley recently entered a 10-year contract with Peet's Coffee through the University Partnership Program, which applies to Cal Dining eateries. Peet's, though it has its origins as a single local coffee shop established in Berkeley in 1966, is now owned by the

German-owned multinational corporation JAB Holding Company (other subsidiaries include Krispy Kreme Doughnuts and household products such as Lysol). However, the Berkeley contract does represent more of a concerted effort to align values around social, environmental, and economic health and sustainability, and to provide wider benefit to the campus community. According to the University Partnership Program, "the 10-year agreement will provide nearly $8 million support for priority programs and departments, including the Centers for Educational Equality and Excellence, Building Sustainability@Cal, Graduate Assembly, Cal Dining, the Career Center, New Student Services, Intercollegiate Athletics, Recreational Sports, and Cal Alumni Association."[26]

The Peet's Coffee trailer outside the Recreational Sports Facility. Photo by Experiential Marketing Partners and www.johnmurray.com.

Policy Recommendations

- Require leased dining facilities to follow the guidelines for Sustainable and Just Catering, across the following categories: Diversity, Equity, and Inclusion, Environmental Sustainability, Food Recovery, Health and Nutrition, and Labor. Whenever new eateries are introduced, the campus should include these requirements in the contract.
- Do not renew the campus-wide contract with PepsiCo. Reconsider the global costs and benefits of providing such a large market and advertising audience for a brand that fails to uphold Berkeley's values of healthy communities and free scientific inquiry. Do not make future contracts with companies that violate these values. Any UC Berkeley-wide food and beverage contracts should involve campus-wide input and uphold agreed-upon values, as well as provide extensive benefit to the campus community.
- All campus eateries, whether Cal Dining or third party, should offer employees—including student employees—the City of Berkeley Living Wage, which is currently $15.45 per hour plus a medical benefit equivalent to at least $2.56 per hour. The Living Wage Ordinance instructs that if the employer does not provide the employee with at least $2.56 per hour toward an employee medical benefits plan, the employer should pay an hourly wage of not less than $18.01.[27] Students are required to enroll in a medical plan to attend UC Berkeley, yet Berkeley students are not eligible for the benefits of staff employees. Per UC Berkeley policy, students only become eligible for employee benefits if they work over 75 percent time over a three month period; at that point they only become eligible for the "core" employee benefit plan, which is not equivalent to the full coverage staff employees of 50 percent or higher receive.[28] Cal Dining does not allow student employees to work over 50 percent time.[29]

Campus Influencers

- Capital Strategies Department
- Vice Chancellor for Student Affairs, currently Stephen Sutton
- Cal Dining
- AFSCME Local 3299 - SX (Service Workers) Unit
- University Partnership Program
- Undergraduate Workers Union
- Be Well at Work – Wellness Program

MICROWAVES AND WATER REFILL STATIONS

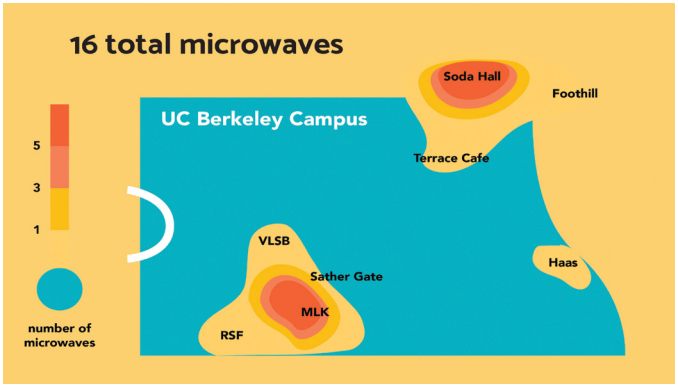
Where are publicly available microwave and water refill stations on campus, and how can we improve kitchen/refill station access?

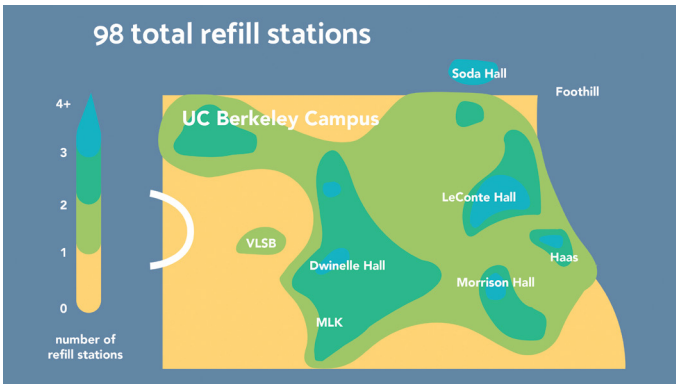
Foodscape Map: Microwaves and Water Refill Stations

Many students, staff, and faculty members bring pre-made meals to campus that require reheating. Many also carry refillable water bottles. Home-cooked meals and tap water can be the most affordable, healthful, and environmentally friendly options for eating while on campus. Accessible microwaves and refill stations—fountains that dispense filtered water—can therefore increase campus food equity. While staff, faculty, and graduate students are more likely to have access to departmental or research lab microwaves, undergraduate students are more dependent on publicly available ones, of which there are only 16 on campus. There are approximately 100 water refill stations. Microwaves and refill stations are not equally distributed across campus, and many students do not know where they are located. Additionally, wealthier schools such as the Haas School of Business have far more sophisticated refill stations than less-resourced units. Currently there are no publicly available refrigerators for student use.

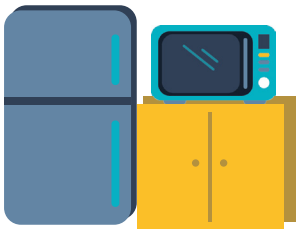
Efforts are underway to create decentralized food preparation hubs in high-traffic student areas around campus. The Basic Needs Security Committee is collaborating with the Associated Students of the University of California, the Student Advocate's Office, and the Graduate Assembly to implement food preparation stations funded through State Senate Bill 85 (SB85), which supports food security efforts in higher education. These food hubs would include a public refrigerator, microwave, and table for food preparation (ie. making a salad or sandwich). In some cases, these will be expanded to include a "satellite pantry" with free nonperishable items, produce, and prepared food for food-insecure students. These locations will also be connected in the emerging campus-wide food recovery program to facilitate the safe recovery of edible food left over from department events.

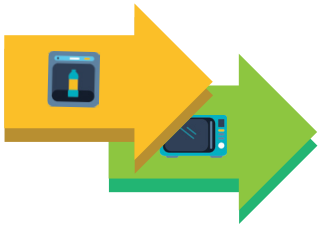
The intention of these stations is to increase food infrastructure across campus to enable campus community members to bring prepared food to campus or to prepare simple meals on site. By adding recovered food and pantry items, these hubs aim to increase the accessibility of food insecurity resources to students by locating services in sites that students already frequent. The Basic Needs Security Committee is exploring multiple options for long-term maintenance, cleaning, and supervision of the hubs. These options include departmental commitments to financially sponsor food purchasing, dedicated paid student staff, and committed student advisor staff time. Dedicated student advisors and student staff would be trained in food safety and be responsible for cleaning the hubs, ensuring that food safety protocols are maintained, and coordinating with the basic needs food recovery program and food pantry for sourcing.





Concentration and distribution of publicly accessible microwaves and water refill stations on central campus. Data collection by Jenica Bautistia, Youree Choi, Isabella Chow, Anna Perhach, Noreen Truong, Janet Xu, KC Chung, Margaret Shi, Hannah Tong, and Lucy Yu. Visualization by Shalandy Zhang.





Policy Recommendations

- Expand food hubs into locations where students already congregate and where student advisors or other staff can supervise cleaning and maintenance. Encourage schools/departments to financially support the installation and long-term maintenance of these hubs; provide additional funding to offset set-up costs if departments are only able to fund long-term maintenance costs.
- Fill gaps by providing comparable microwaves and water refill stations across campus, particularly in the Colleges of Natural Resources, Chemistry, and Environmental Design, as well as Berkeley Law, and high-traffic areas in Letters and Science buildings.
- Provide better signage for microwaves and refill stations to ensure building users are aware of locations.
- Ensure that microwaves are supplied with adequate cleaning supplies to reinforce positive food safety skills; ensure adequate staffing support so that microwaves can be cleaned nightly.
- Retrofit existing buildings with electric bottle filler/drinking fountain-style refill stations. Ensure all new buildings follow guidelines for water refill stations, per UC Berkeley Real Estate Campus Design Standards.[30] Utilize the resources provided by the I Heart Tap Water Campaign to learn about and address needs of building/departmental occupants.
- Share printable handout of microwave and water refill station locations from the Foodscape Map at new student orientations, advising offices, and basic needs service units. As food hubs become operable, add them to the map.

Campus Influencers

- Basic Needs Security Committee
- Individual building managers
- Student Advocate's Office, Associated Students of University of California
- Graduate Assembly
- Departmental administration and advising staff
- Campus Health and Safety Inspector, currently Patrick Kaulback

CAMPUS GARDENS

What functions do the UC Berkeley campus gardens serve? Are they accessible to all members of the UC Berkeley community?

Foodscape Map: Campus Gardens, Campus Gardens Stories, and From Garden to Pantry

UC Berkeley currently hosts over 10 food-producing gardens. These gardens are governed by teaching colleges (College of Natural Resources, College of Environmental Design); facilities (Residential and Student Services Programs, Grounds/Cal Dining, Sports and Recreation Grounds); Student groups (Student Organic Garden Association, Berkeley Student Cooperative); and a UC-community hybrid structure in the case of the UC Gill Tract Community Farm. Gardens can further be divided into: 1) "academic gardens" focused on research and educational demonstration, such as the Oxford Tract, Blake Garden, and UC Botanical Garden, where food grown in those spaces is not typically for consumption; 2) "demonstration gardens" that showcase native plants or food production at small scale for food literacy and education; and 3) "food production gardens," at which primarily students and/or staff grow fruits and vegetables for consumption while also teaching and learning food production skills.

UC Berkeley Gardens, shown by relative acreage. Data collection by Natalia Semeraro and Nathalie Munoz. Visualization by Tiger Fu and Meg Prier.

UC Berkeley could greatly increase and better integrate edible plants and gardens into the campus landscape to build a new model of campus food production for the benefit of students, staff, faculty, and community members while enhancing the liveability, healthiness, environmental resilience, and greenhouse gas profile of the campus. "Green roofs" are beginning to emerge as a new urban agriculture option, with the implementation of the first campus rooftop garden at the La Loma Parking Structure underway in spring 2018. In 2016 a privately operated rooftop farm was also launched at the UC Berkeley-contracted Garden Village student housing complex. By taking advantage of faculty and student expertise at the College of Environmental Design, College of Natural Resources, and College of Engineering, UC Berkeley has an opportunity to become a thought leader in the field of urban agriculture by turning our campus into a living lab. Urban agriculture should be integrated into the UC Berkeley Landscape Master Plan, UC Berkeley 2025 Carbon Neutrality Planning Framework, and 2020 UC Berkeley Long Range Development Plan.

More than 2,000 students, staff, faculty, and community members participate in campus garden programs every year, with the UC Gill Tract Community Farm and Student Organic Garden providing the highest number of engagement opportunities. Over 20 students have paid positions in campus food production gardens in 2018, funded through The Green Initiative Fund (supported through a student fee referendum), Cal Dining, the Basic Needs Security Committee, and Berkeley Food Institute. These positions prioritize work-study students, allowing low-income students to gain vital hands-on food systems knowledge and leadership development skills.

Our research found that campus gardens have historically collected little data on quantity and demographics of campus members utilizing garden spaces; size and use of production yield; and numbers and types of educational and/or research activities at garden spaces. Qualitative surveying indicates that gardening is seen as a "white" activity on campus, while at the same time many campus gardens use the language of "food justice" to describe their activities.

The Student Organic Garden. Photo by Jonathan Fong.

> *"I truly believe that* [*our group*] *does its best to be as inclusive as possible, but it does still feel sometimes to be a white-dominated space. I don't know if this is because of the dynamics/ demographics at Berkeley, or has to do with who the garden network reaches, but it is definitely something that we really try to be aware of and work against." ~ Student Organic Garden Leader*

> *"Most of the facilitators and the culture of* [*the Student Organic Garden*] *is centered around white people. It would be nice to see more POC represented in the community space." ~ Student Organic Garden DeCal participant*[31]

The lack of quantitative and qualitative data on garden participant demographics and outreach strategies makes it difficult to evaluate diversity, equity, and inclusion in campus garden spaces. In 2017 the Berkeley Food Institute began developing a comprehensive data collection strategy and in spring 2018 started training garden managers in data-tracking processes.

Since 2017, the Basic Needs Security Committee, Berkeley Food Institute, and several individual campus gardens have put significant effort into increasing donations from campus gardens into the UC Berkeley Food Pantry. This nascent Gardens-to-Pantry Program provides an example of successful integration of hands-on food production education and hunger alleviation efforts.

Policy Recommendations

- Create clear planning guidelines and decision-making processes for urban agriculture on central campus that include consideration for education, research, and food security efforts. Hire a full-time urban agriculture groundsperson to coordinate and supervise urban agricultural activities on central campus.
- Improve campus planning processes for physical land use to include effective input from on-campus community members (relevant student representatives, faculty, researchers, staff, and administrators) and off-campus community members. This process should aim to include social sustainability in campus planning that is equal in focus to efforts on environmental sustainability. Invite off-campus leaders in Bay Area urban agriculture and representatives of the Ohlone community. Compensate off-campus community members for their time to participate in the process.
- Provide long term funding for gardens-to-basic needs programs. Increase the number of paid, work-study eligible positions for students, alongside more course, internship, research, and volunteer experiences in food production, harvest, transport, and preparation. The leadership, coordination, and communication skills learned through these work opportunities will prepare students for food systems careers after graduation.
- Continue data collection strategy development at the Berkeley Food Institute; train garden students and staff in data tracking. Coordinate data collection with Basic Needs Security Committee and publicly share and communicate data on an ongoing basis.
- Improve the inclusiveness of gardens for the whole UC Berkeley community by requiring garden leadership to undertake anti-oppression training, and by making garden programming and food production culturally relevant to diverse groups across campus. Specifically expand opportunities for underrepresented student communities to engage with urban agricultural and gardening spaces on and off campus.
- Increase visibility and diversity of narratives around agriculture, food, and land that highlight the experiences of underrepresented communities, particularly those with histories of trauma related to

The Garden-to-Pantry Program. Visualization by George Geng.

Students at the UC Gill Tract Community Farm. Photo by Jennifer Sowerwine.

forced farm labor and loss of land. To do so, conduct focus groups and surveys to better understand the needs and visions of underrepresented student, staff, and faculty communities. Implement programs and spaces in response, whether modifications to existing gardens or the creation of new spaces.

Campus Influencers

- Berkeley Food Institute, particularly Campus Gardens Coordinator, currently Meg Prier
- Sponsoring schools: College of Natural Resources and College of Environmental Design
- Central Campus Grounds Operations, Residential and Student Services Program Grounds, Sports and Recreation Grounds
- Physical and Environmental Planning Team
- Campus Landscape Architect
- Campus Architect
- Supporting professors and researchers, especially at College of Environmental Design, College of Natural Resources, and College of Engineering
- Individual staff and student employees of each garden
- Associated Students of the University of California
- DeCal Board and Undergraduate Course Facilitator Training and Resources

(From left) UC Berkeley basic needs security community members Ibrahim Ramoul Menendez and William Smith IV at the Food Pantry. Photo by Karina Candela.

BASIC NEEDS SECURITY

How do we ensure all members of our campus community are secure in their food, housing, and finances?

Foodscape Map: Basic Needs: Food Security, From Garden to Pantry, Geographic Map, and University Health Services Stories

Basic needs security refers to the food, housing, and financial security of our community. We understand that basic needs have a direct impact on the mental-emotional-physical health, academic performance, and professional development of our students. Students find themselves attending school in one of the most expensive regions in the country, subject to skyrocketing housing prices (see discussion on the housing crisis above: "Agricultural Research/Education and Student Housing Needs"). They also are living with the reality of increased economic inequality alongside inadequate state and federal funding for public higher education. Food insecurity is the uncertain or limited ability to obtain adequate food in socially acceptable ways due to lack of financial resources or access.[32] The 2016 UC Food Access and Security Study found that 39 percent of undergraduate and 23 percent of graduate students at UC Berkeley experienced either "low" or "very low" food security.[33] Food insecurity must be understood and addressed in the context of basic needs security, recognizing that students make decisions and trade-offs between various financial needs, including food and housing.

We also recognize that many staff—particularly food service workers, custodial staff, and others among UC Berkeley's lowest-paid workers—as well as lecturers and postdoctoral

fellows, are faced with the same conditions that cause basic needs insecurity among students.

Amidst this landscape, the UC Berkeley Basic Needs Security Committee has implemented a multi-approach, integrated basic needs model. Berkeley has the lowest debt by graduation for undergraduate students across the UC system, has the longest-standing institutional Basic Needs Security Committee in the country, and had a record setting 2016–2017 academic year, with students utilizing some aspect of basic needs services over 14,000 times. For food security, UC Berkeley's basic needs model currently includes: CalFresh Clinics, a Food Assistance Program, the UC Berkeley Food Pantry, Gardening and Farming Skills, Nutritional Science and Toxicology food security courses, and University Health Services cooking and nutrition demos and workshops. As of spring 2018, basic needs programs saw an average of 2,500 visits to the pantry per month, 750 students enrolled in CalFresh, and 72 students per year attending the food security course.[34]

The Basic Needs Security Committee is committed to growing and institutionalizing these support systems

CalFresh outreach on Spoul Plaza. Photo by Ruben E. Canedo.

for students who are currently facing food insecurity. The committee also recognizes that these services do not solve the root causes of basic needs insecurity and that students face these challenges because of structural inequities and economic conditions. In order to effectively address and prevent basic needs insecurity, UC Berkeley must advocate for structural solutions and policies that shift federal and state investment towards higher education, implement stronger rent control and tenant-centered housing policies, and increase accessibility of affordable, healthy food. The committee is therefore committed to policy and advocacy work to reduce and prevent basic needs insecurity, while also maintaining support services for students who will still face emergencies and crises.

Policy Recommendations

- Institutionalize basic needs programming by providing long-term funding for a physical Basic Needs Hub and staffing for basic needs services. The hub should include the Food Pantry, space for CalFresh clinics and financial skills workshops, and a teaching kitchen. In addition, improve the accessibility of basic needs services with decentralized service hubs sponsored and maintained by campus departments and supported by the central hub. Provide long-term funding for Basic Needs Manager; Basic Needs Security Committee Chair focusing on policy, fundraising, and communications; Campus Gardens Coordinator; and student work-study positions.
- Continue collecting and evaluating data on basic needs: quantitative and qualitative data on students experiencing basic needs insecurity and students receiving services, as well as evaluation data from students both using and not using services to learn more about challenges and barriers to utilizing services. Collect data on food insecurity among UC Berkeley staff, postdoctoral fellows, and lecturers.
- Continue improving and amplifying communication efforts to increase general awareness of basic needs insecurity and available services. Continue to include

The Garden-to-Pantry Program. Visualization by George Geng.

information about basic needs in Golden Bear Orientation; encourage faculty to add it to course syllabi and readers; and train student advisors and other student-focused staff on basic needs resources.

- Extend basic needs services to staff and academic appointees in need; most-vulnerable populations include food service workers, custodial staff, postdoctoral fellows, and lecturers.
- Support efforts to create a centralized, student-run kitchen in the MLK Student Union to process recovered food into sliding scale meals.
- Ensure livable wages for staff, lecturers, postdoctoral fellows, and graduate students.
- Ensure sufficient affordable housing for students near campus or transit hubs. Prioritize affordability in new housing developments. Support housing policies that support tenant rights, rent control, and expanding affordable housing. Increase access to emergency housing for homeless students via existing rooms in residence halls or new dedicated spaces.
- Advocate at the state level for reduced tuition costs for California residents and state funding for pre-college training to help incoming students understand and navigate resources, budgeting, grocery shopping, meal preparation, housing, self-advocacy, etc.
- Advocate at the federal level for increased Pell Grants and student loan reform.

Campus Influencers

- Chancellor, currently Carol Christ
- Vice Chancellor of Equity and Inclusion, currently Oscar Dubón, Jr.
- Vice Chancellor for Student Affairs, currently Stephen C. Sutton
- UC Berkeley Basic Needs Security Committee
- Basic Needs Security Student Coalition
- Financial Aid and Scholarships Office
- University Health Services
- Department of Nutritional Sciences and Toxicology
- Berkeley Food Institute
- Associated Students of University of California

Off-Campus Influencers

- UC Regents and UC Office of the President
- UC-wide Basic Needs Security Committee
- UC Office of the President Global Food Initiative
- State of California Governor's Office and Legislature
- Berkeley City Council

WELLNESS PROGRAM FOR HIGH INJURY JOB CLASSIFICATIONS

What wellness services does UC Berkeley provide for our highest-risk and often lowest-paid employees, many of whom work in campus food service?

Foodscape Map: Wellness Program For High Risk Jobs

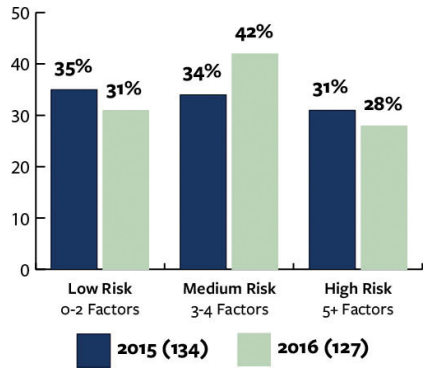
Since 2007 the University Health Services Be Well at Work – Wellness Program for faculty and staff has delivered a customized, onsite wellness program for the Residential and Student Service Programs' (RSPP) Housing and Dining employees in high-risk job classifications. High-risk jobs are defined according to days lost and workers' compensation claims. The program has expanded to other units within RSPP, as well as to other departments with service workers in high-risk job classifications, including Facilities Services and Office of Laboratory Animal Care (OLAC). Approximately 950 UC Berkeley employees fall into high-risk job categories.[35]

The goals of the program are to support employees in improving their health by providing onsite education, tools, and resources, and to create a healthy workplace culture. With the support of the UC Office of the President Be Smart About Safety (BSAS) funding for a dedicated health educator and program costs, the wellness program has been successful in creating a safe, confidential, and supportive culture, and in delivering positive outcomes at both the individual and institutional level.

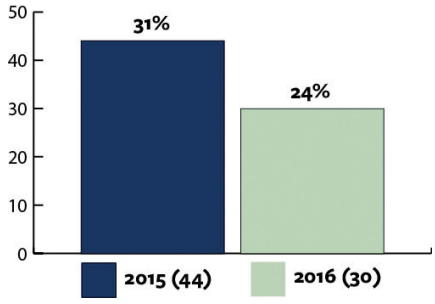
Cal Dining staff at a pre-shift "Stretch and Flex." Photo by University Health Services Be Well at Work – Wellness Program.

In 2015–2016:[36]

- The number of RSSP employees at risk for prediabetes and diabetes decreased by 32 percent, measured through participation in the annual health screening.
- In collaboration with RSSP Information Technology staff, the Be Well at Work program incorporated health education into the department's computer training classes so as to improve employees' skills at accessing their health insurance plans, making online appointments with their provider, and finding quality health education websites in their native languages.
- An activity-based Wellness Break has become a regular agenda item at RSSP employee and management group trainings.
- Wellness Leaders at Cal Dining are sharing "A Minute for Your Health" at pre-shift meetings.
- In Facility Services, management supported approximately 125 employees to extend their lunch break by participating in UC Walks: Cal Walks at Work Day.



Know Your Numbers Health Screening aggregate risk data



Defeat the Sweets Program risk data for pre-diabetes and diabetes

"With the Wellness Program, I became aware of the all the sugar that was in the food that I was eating, and with your recommendations, I started to think about what I was doing wrong. And also, my Mom has diabetes, I don't want to have diabetes....I have more energy throughout the day. Before, I was very sleepy, and I felt very tired, and my back hurt more. I have changed my weight. Before I weighed 155 lbs, now my weight is about 135-138 lbs."
~ Teresa Espinosa, Custodian, Unit 2

Policy Recommendations

- Continue funding this successful program.
- Facilitate and support employee leadership for wellness planning.
- Expand program services to more campus constituents, particularly employees in trades units.

Campus Influencers

- University Health Services
- Student Affairs
- Residential and Student Services Programs
- Cal Dining
- Environmental Health and Safety

Off-Campus Influencers

- UC Office of the President Be Smart About Safety Program

LACTATION ROOMS

How can UC Berkeley best support breastfeeding parents on campus?

Foodscape Map: Geographic Map

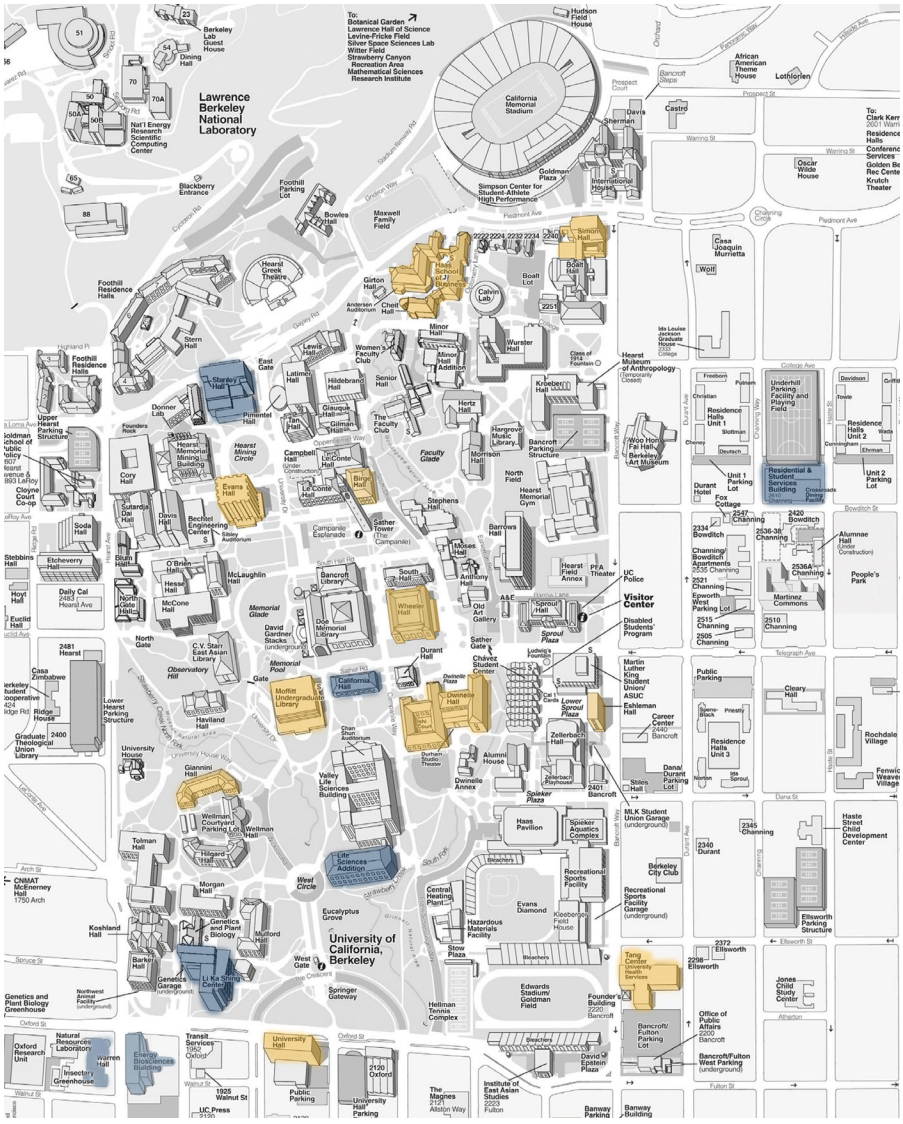
Lactation rooms are spaces where faculty, staff, students, and visitors can breastfeed and/or pump in private. There are a total of 20 lactation rooms across campus, most equipped with a hospital-grade, electric breast pump for use either with attachments from the Ameda Purely Yours Breast Pump or a personal HygieniKit®. The University Health Services Be Well at Work – Wellness Program for faculty and staff coordinates the Breastfeeding Support Program (BFSP), which serves faculty, staff, students, and their spouses/domestic partners, as well as employees at UC Office of the President and Lawrence Berkeley National Laboratory who choose to continue breastfeeding after returning to work or school. In addition to lactation rooms, the BFSP provides the personal HygieniKit® to use with hospital-grade pumps sold at-cost, and breastfeeding classes facilitated by a certified lactation consultant.

Policy Recommendations

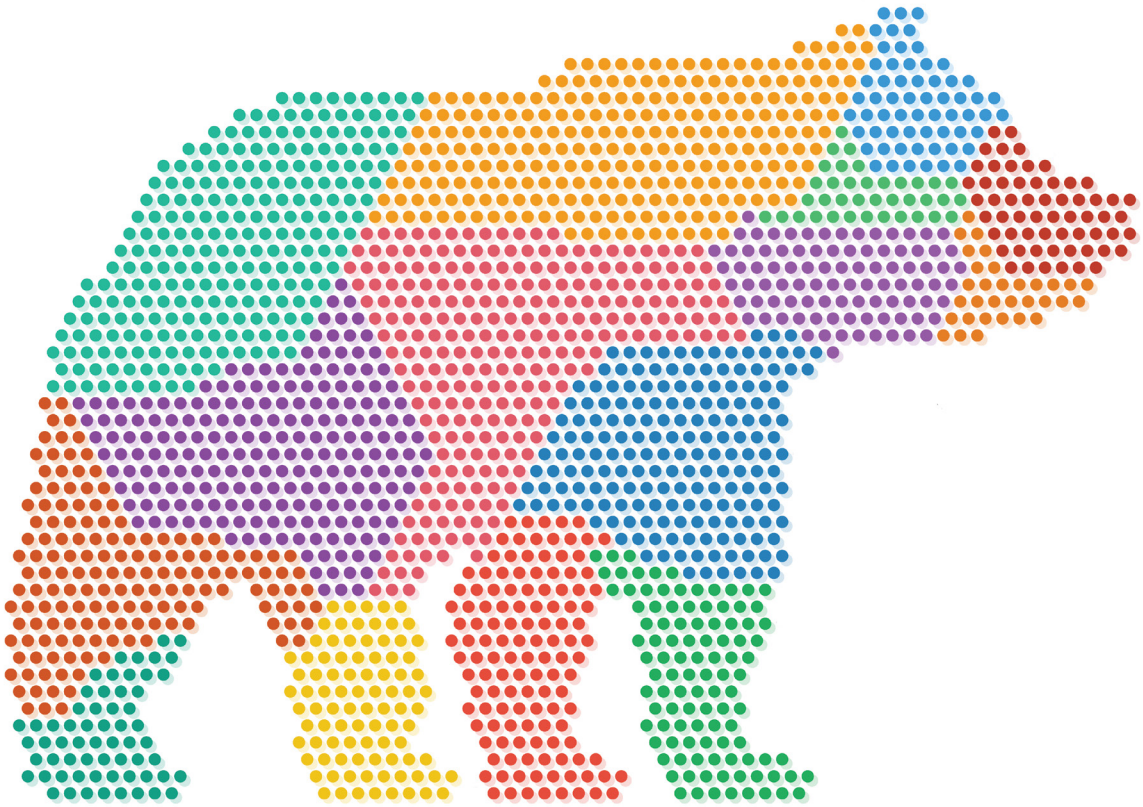
- Continue this successful program, and expand lactation rooms into new segments of campus, determined through consultation with breastfeeding faculty, staff, and students.
- Provide additional funding for regularly scheduled maintenance of lactation rooms.
- As some campus lactation rooms are enclosed within women's restrooms, consider providing rooms within gender-neutral spaces to ensure equal access to transgender parents.
- Increase outreach to employees across all job classifications to ensure that lactation rooms meet their needs, particularly employees at Cal Dining.

Campus Influencers

- University Health Services Be Well at Work – Wellness Program
- Building managers
- Breastfeeding faculty, staff, and students



Central campus lacation rooms. Map by University Health Services Be Well at Work – Wellness Program.



FOOD-RELATED STUDENT GROUPS

Who participates in food-related student groups at UC Berkeley? How do participants view dynamics of diversity, equity, and inclusion within their group?

Foodscape Map: Student Groups, Student Group Stories, and Learning Through Our Food

Student groups play an important role within the food system on campus, providing opportunities for leadership development, activism, and community-based learning. Over 15 student-led groups on campus are currently working on food issues—from food security to food innovation, from growing one's own food to reducing food waste. In spring 2017, the Berkeley Food Institute conducted a demographic survey of food-related student group (FRSG) participants, and also asked participants to comment on equity and inclusion issues within groups and to think of possible solutions for their specific group. We compared demographic data to the campus-wide population.[37]

Data collection by Nathalie Munoz and Natalia Semeraro. Visualization by Cassidy Hsieh.

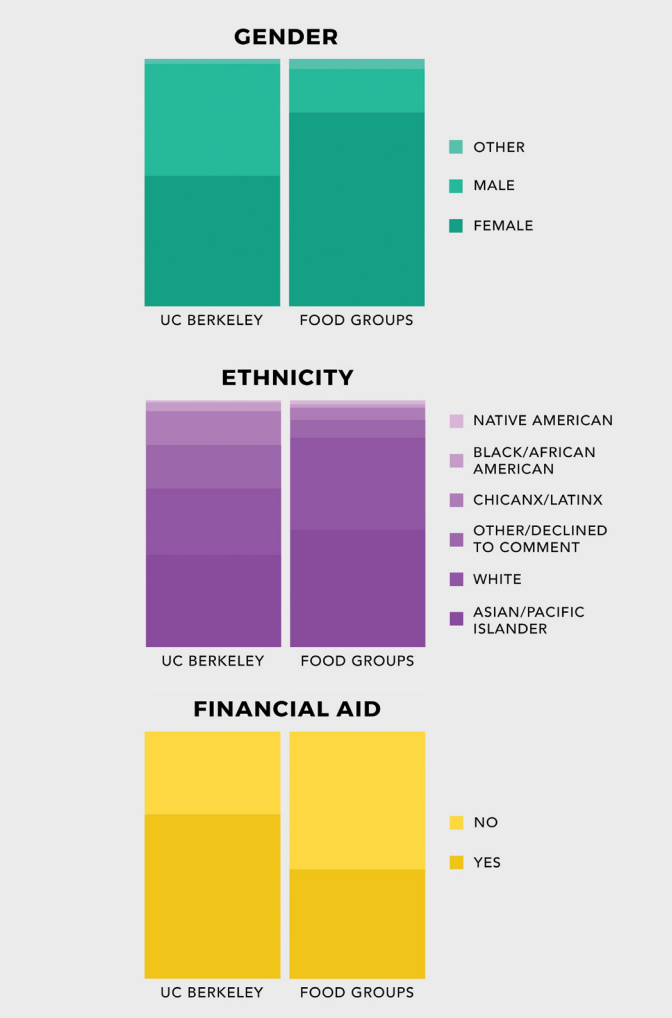
- Berkeley Student Food Collective (BSFC)
- Cal Dining Sustainability Team (CDST)
- Food, Equity, Entrepreneurship, & Development (FEED)
- FoodInno
- Food Science and Technology at Cal (FST)
- Food@Haas
- Gill Tract Farm Students Coalition (GTFSC)
- Gradfood
- Latin American Scientific Society of Agroecology - North America (SOCLA-NA)
- Spoon University
- Swipe Out Hunger (SOH)
- Student Organic Garden Association (SOGA)
- Student Nutrition Advocacy Club (SNAC)
- UCB Food Pantry
- Other

The most striking comparative differences relate to the gender, ethnic, and economic makeup of FRSG members.[38]

- While 52 percent of UC Berkeley students identify as female, 79 percent of FRSG members identify as female. This significant gender skew echos a larger trend in the food system where food work is considered "women's work" and may be viewed by some people as accordingly less significant.[39]
- FRSG members had a higher percentage of Asian and white students than UC Berkeley students at-large: 48 percent Asian and 38 percent white for FRSG, compared to 38 percent Asian and 26 percent white for UC Berkeley at large. Therefore, the vast majority of FRSG members (86 percent) belong to UC Berkeley's two dominant ethnic groups—namely, Asian and white—versus 64 percent for the campus as a whole. The common perception on campus is that the "food movement is white."[40]

While FRSG were somewhat more white (10 percent more) compared to the campus at large, the most dominant single ethnic group was in fact Asian.

- Around 67 percent of UC Berkeley students receive financial aid, whereas only 44 percent of FRSG members do. If data were available, it would be useful to compare FRSG members to all UC Berkeley student groups, to assess whether students are more likely to participate in extracurricular activities if they do not receive financial aid. Furthermore, we want to compare percentage of FRSG members who work (53 percent, at an average of 10 hours per week) to members of all UC Berkeley student groups, and Berkeley students at large. The latter two figures are not available, but would shed light on whether the need to work generally inhibits participation in student groups.



Of note, when asked if they perceived that there are any challenges with equity and inclusion within their group's dynamics, 75 percent of FRSG members responded in the negative. While FRSG's demographic makeup indicates a less equitable and inclusive milieu than UC Berkeley on the whole, a strong majority of members of these groups do not recognize the discrepancy. This lack of self-reflexivity creates a closed-circuit environment that discourages participation of underrepresented and male-identified students, and does not challenge FRSG to address inequities. Of those students who did comment that there were issues within their groups, they spoke to gender, ethnic, and economic disparities.

"Our team is white women dominated and focused on environmental sustainability rather than social sustainability." ~ Undergraduate FRSG leader (White, female-identified, works and has financial aid)

"It's not so much a problem with inclusion but it's more so the fact that there is a predominating demographic that's pretty obvious within our club. It's composed mostly of Asian girls. There's also quite a high turnover rate, so we have many freshmen in our club. We've tried to recruit guys into the organization and get their friends to come, but it's worked with varying degrees of success." ~ Undergraduate FRSG leader (Asian, female-identified, works but does not have financial aid)

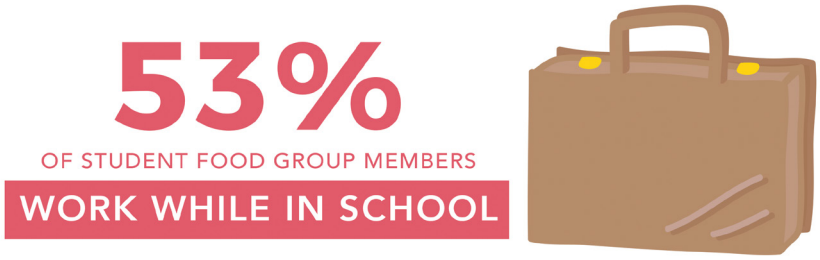
"It's hard to involve people in membership because it is based on volunteering. We want to engage more of the community, but we end up selecting for people who have extra time and don't need to work for money." ~ Undergraduate FRSG leader (Asian, female-identified, does not work but has financial aid)

Policy Recommendations

- Require Associated Students of the University of California (ASUC) to have all student groups leaders undergo anti-oppression training and submit an equity and inclusion outreach plan in order to register as a student group. Since student group leadership changes frequently, make this an annual requirement to maintain status as a Registered Student Organization. ASUC should also offer workshops on developing equity and outreach plans.
- Hold events every semester co-organized by the Multicultural Community Center, Students of Color Environmental Collective, and affinity-based student groups on causes of mutual interest. The Berkeley Food Institute Campus Gardens Coordinator can assist in coordinating these efforts.
- Hold workshops for food-related student groups on the specific legacies of exclusion in food and environmental movements, and on the histories of trauma related to forced farm labor and loss of land for underrepresented minorities, particularly in African American, Native American, Latinx, and formerly incarcerated communities.

Campus Influencers

- LEAD (Leadership, Engagement, Advising, and Development) Center of the Associated Students of the University of California
- Graduate Assembly
- Individual food-related student groups
- Berkeley Food Institute
- Schools/colleges who sponsor FRSGs (e.g.: Haas School of Business in the case of Food@Haas)



Visualization by Cassidy Hsieh.

Photo by Cal Athletics.

GREEK LIFE

Who participates in Greek life at Berkeley? What are their food experiences? Are there inequalities in food access and experiences in Greek housing?

Foodscape Map: Greek Life

Fraternities and sororities comprise a significant yet previously understudied segment of the campus food system. Approximately 3,600 (12 percent) of Berkeley undergraduate students participate in CalGreeks, the UC Berkeley community of over 60 fraternities and sororities.[41] CalGreeks promotes four pillars: Friendship, Scholarship, Leadership, and Service, and is divided into four separate councils: the Intrafraternity Council (IFC), representing 30 fraternities; the Panhellenic Council (PHC), representing 14 sororities; the Multi-Cultural Greek Council (MCGC), representing 14 culturally based fraternities and sororities;, and the National Pan-Hellenic Council (NPHC), six historically African American fraternities and sororities. Greek chapters are further affiliated with national and international sororities and fraternities, creating a dual structure of identification and governance between campus and external organizations.

In 2017–2018, the Berkeley Food Institute conducted surveys on the food experiences of Greek members, as well as their thoughts on diversity, equity, and inclusion in their households. Our survey response was as follows: 274 members of PHC, 107 members of IFC, 6 members of MCGC, 0 members of NPHC, and 0 members of PHC chapters without houses. This represents an overall response rate of roughly 11 percent of Greek members.

Despite strong efforts, researchers had low survey response rate among MCGC and NPHC members. The team of data collectors included three members of PHC, one member of IFC, and one member of MCGC. The inability to forge meaningful connections with specifically multicultural and African American chapters speaks to divisions within the Greek community, both in regards to racial identity, and between chapters with houses and without.

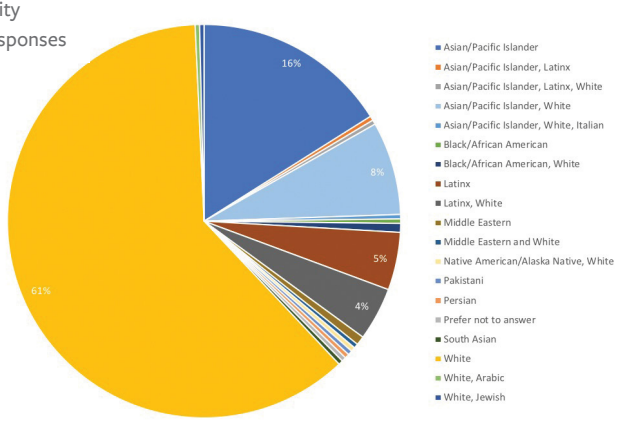
The Greek system nationally has been heavily criticized for issues of racial segregation (historically, white Greek organizations had race-based membership in place through the 1960s), sexism, and homophobia.[42] By regulation, the vast majority of Greek chapters are gender-segregated, and most do not take a stance on supporting transgender/gender-nonconforming students. A university such as Berkeley, known for our diverse and inclusive environment and progressive values, has an opportunity to determine the culture within our own Greek chapters. Recent attempts to address these issues, however, have shown that, even at Berkeley, it is a rocky road. In a 2017 diversity and inclusivity presentation required for all PHC members, the overarching Berkeley PHC council modified the presenter's slides without her permission to make them "less strong" on the topics of implicit bias, the LGBTQ+ community, and racism.[43]

Our survey results also indicated that the majority of PHC members do not see an issue with equity and inclusion in their houses: 76 percent of PHC respondents felt their house was equitable and inclusive, even though 76 percent identify as white and 91 percent as heterosexual, with only 39 percent receiving financial aid. IFC respondents were in fact far more racially and economically diverse than PHC respondents, if not diverse by gender identity or sexual orientation.[44] Interestingly, 98 percent of IFC respondents felt that their chapter was equitable and inclusive.

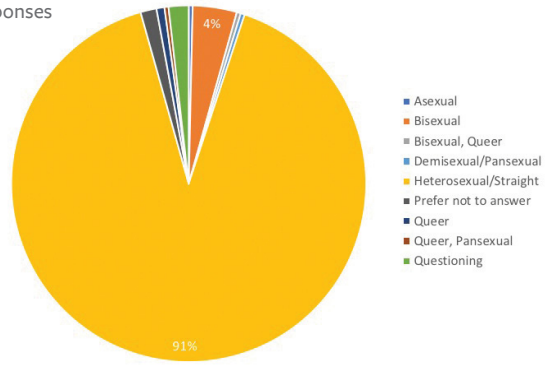
Data indicates that the four Greek councils vary greatly in their housing and dining structures. Only one MCGC chapter has a house, and no NPHC chapters do. The fact that sororities and fraternities specifically for students of color do not have houses at all points to a structural inequality in the Greek system that affects the access of students of color to food, whether through house meal plans or the availability of house kitchens to prepare their own meals.

Panhellenic Council

Ethnicity
274 responses

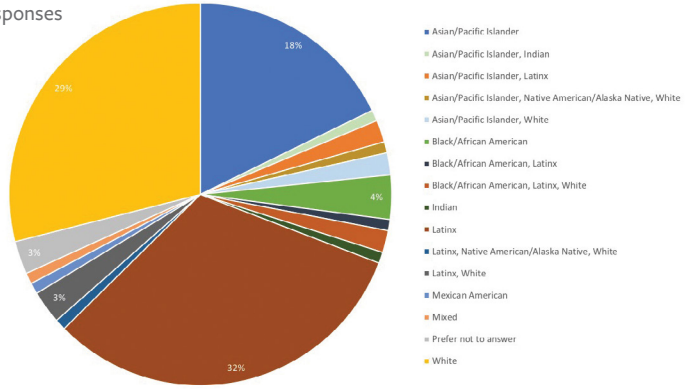


Sexual Orientation
274 responses

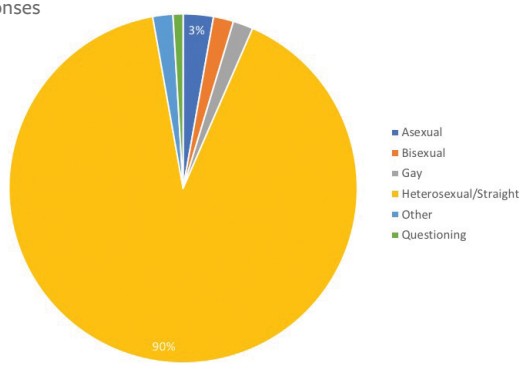


Intrafraternity Council

Ethnicity
107 responses



Sexual Orientation
107 responses



Twelve out of 14 sororities in PHC have optional housing and mandatory meal plans that consist of full service in-house dining.[45] They were generally satisfied with their house food: 76 percent were "happy" or "very happy" even though only 27 percent felt they had a say in their food choices. They indicated that they valued taste and healthfulness most in their food, followed by convenience and energy. The most common criticism of the food was that it "wasn't healthy," with too much fat and carbohydrates, and not enough fruits and vegetables. Several sorority members also discussed their eating disorders in survey responses. Many sorority members indicated that the meals schedules weren't convenient for them. Of note, 93 percent of PHC survey respondents indicated that they did not have access to their house kitchen, but would like access to prepare their own meals.

"I would love to know where the food is sourced from and ensure we're promoting sustainable eating habits. Also reducing the amount of oils used in the food and making every meal healthier."

"I would love to be able to cook my own food in our kitchen. That would drastically improve my meal quality and the frequency of meals that I eat."

"I'm planning to live in the house next year and am really worried about not having any viable meal options, especially considering there's no open kitchen for members who cannot eat the meals provided to cook for themselves."

~ PHC members

By contrast, 28 out of 30 fraternities in IFC have optional housing, yet none have full-service dining. Many IFC chapters use Cal Dining and International House meal plans, and others have a few meals per week prepared by a professional cook or have mobile app-based discounts with local restaurants. Almost 50 percent of IFC survey respondents, however, indicated that they wished their house had professional dining or a meal plan, and that they would be willing to pay higher fees to support this. About 93 percent of IFC survey respondents said they had access to a full kitchen in their house and 72 percent use it "sometimes" to "very often" for a range of activities including cooking from scratch, heating up leftovers, preparing snacks, and storing food. However, several respondents indicated that a lack of sanitation and/or functioning appliances was an issue for their house.

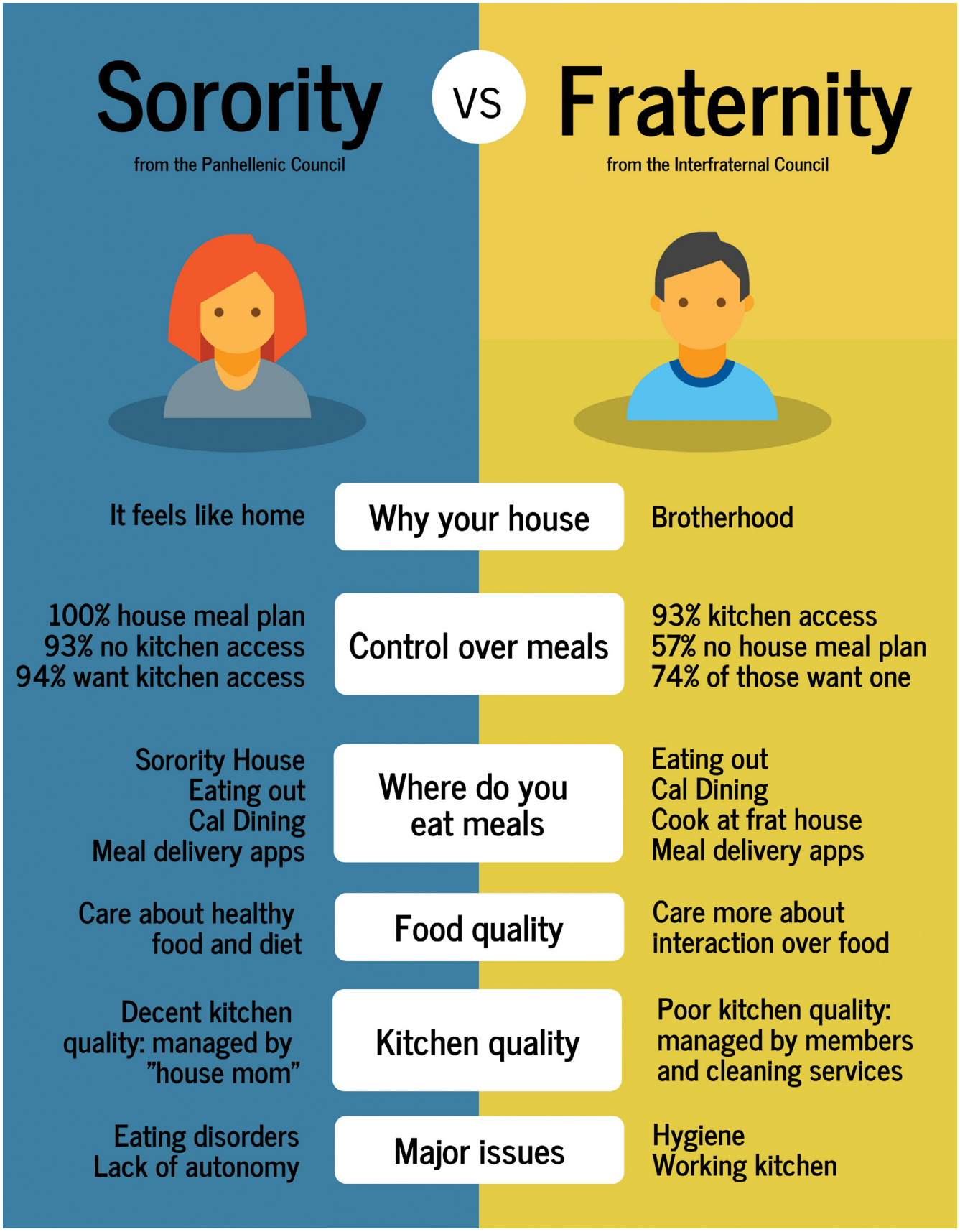
"While we budget for groceries, sanitary levels makes it difficult to desire cooking/prepping in such a space."

"It can sometimes be difficult to cook because there is a lack of working appliances and things like sinks, and ovens, and most recently the kitchen hood that runs above the grill. I would like us to use this space more as a group so that more people are talking and interacting with each other communally over food."

~ IFC Members

While 43 percent of IFC and 32 percent of PHC members responded that since arriving at UC Berkeley, they have cut the size of their meals or skipped meals because there was not enough money for food, only 21 percent of IFC and 4 percent of PHC members had used Berkeley's basic needs services.[46] This low participation rate in basic needs services indicates a need for further research as to whether this is due to stigma or lack of outreach to the Greek community.

As shown above, within PHC and IFC, female students have full-service meal plans yet little autonomy over their meals, whereas male students have high autonomy but less consistent access to regularly prepared meals. Further research is needed to understand the effect of this structural difference on the health of sorority versus fraternity members, as well as a comparison to MCGC and NPHC food options and health. The difference in food autonomy reflects further cultural difference between sorority and fraternity life. PHC chapters have a live-in "House Mom," regulations and "visiting hours" for male guests, and a complete ban on alcohol and marijuana even for students over 21. Fraternities do not have these regulations.



Data collection by Samantha Barney, Justin Loew, Shannon Prendergast, Julia Scheinman, and Garrett Seno. Visualization by Boyue Xu.

Furthermore, social stratification based on class also plays out in the Greek system. Member dues vary greatly between Greek chapters, as does the structure of how house budgets are spent. Researchers observed that within PHC and IFC, sororities have higher fees than fraternities, and that the most expensive sororities are known for higher quality, healthier food. Sorority dues directly support meal plans whereas fraternities are known to spend more on alcohol and parties. As PHC chapters are, by regulation, not allowed to host parties at their own houses, women must go to fraternity property in order to attend parties. Fraternities choose which sororities to invite to parties, with wealthier chapters both hosting and receiving more invitations—a situation in which power is unevenly distributed based on gender and class. Furthermore, since male students are in the position of providing alcohol there are defined social boundaries around gender and power that have larger implications regarding issues of sexual assault.

Policy Recommendations

- Require Greek councils to collect demographic information about their members so as to create a baseline for evaluating diversity, equity, and inclusion.
- Create a Greek Food Policy Council, modeled after the Greeks Against Sexual Assault Council, with the following functions:
    - Provide opportunities for members of all four Greek councils to connect over shared meals in communal spaces that are friendly to students of color and gender inclusive, such as the Multicultural Community Center. Use shared meals as a starting point for discussions of diversity, equity, and inclusion.
    - Provide confidential workshops on eating disorders.
    - Host discussions on how the socially diverse, progressive culture of UC Berkeley can override the national standards and cultures of the Greek system, specifically around safe, inclusive parties and in-house food preparation.
    - Create a taskforce of MCGC and NPHC members to learn about—and act on—how Greek system structures affect their access to food, including barriers to obtaining chapter houses.
    - Raise awareness and normalize the use of campus basic needs security food assistance programs in Greek chapters.
    - Tailor toolkits to PHC and IFC contexts to help empower members to participate in decision-making around their food. Design activities that individual houses can use to determine what they want their food systems to look like (e.g., in-house meal plans with professional cooks, shared member cooking duties, frequency of communal meals. etc.)
    - Create an "Eat Together" campaign to encourage fraternity members to share meals at their houses at set times.
    - Create a food recovery plan for PHC sororities so that leftover food can be utilized by students in need. This plan should include inviting non-PHC Berkeley students to sorority meals.
    - Hold cooking workshops for members of all Greek chapters.
    - Appoint a Food Advocate for each Greek chapter, modeled on the Health Worker role.

Campus Influencers

- UC Berkeley Intrafraternity Council, Panhellenic Council, Multi-Cultural Greek Council, and National Pan-Hellenic Council
- National/international chapters and councils of each Greek organization
- LEAD (Leadership, Engagement, Advising, & Development) Center of the Associated Students of the University of California
- Presidents and Executive Committees for each chapter
- Chapter Health Workers

STUDENT COOPERATIVES

Who participates in the Berkeley Student Cooperative? What is their food experiences?

Foodscape Map: Student Cooperatives

The Berkeley Student Cooperative (BSC) is an independent 501(c)(3) nonprofit housing cooperative that provides room and board to approximately 1,230 students.[47] They are known for their affordability, affability, and accessibility. There are 17 room-and-board houses, ranging in size from 17 to 124 residents. In the 2018–19 academic year, the cost for room and board is $7,218 per academic year ($902 per month), and includes a single room, food, utilities, furniture, household supplies, and social and educational events. As the co-op system buys in bulk, food is generally less expensive than for students using campus meal plans or living in private housing. BSC also has three apartment complexes with slightly higher fees, ranging from studios to 4-bedroom units. Apartments do not include food as part of their fees, though apartment residents can obtain board-only plans at other co-ops.[48]

To collect data on the food experience in BSC, we conducted two surveys: one for co-op members and one for co-op kitchen managers, who are in charge of ordering food. We received 160 member responses, which accounts for approximately 13 percent of Berkeley Student Cooperative residents. Overall, survey respondents reported a very high level of satisfaction with their co-op's food system, from decision-making to quality of food to the cooking and eating

Berkeley Student Cooperative kitchen. Photo by Peg Skorpinski, UC Berkeley Digital Gallery.

environment. Many members commented that they are eating healthier since joining the co-ops, and specifically eating more fruit and vegetables. Members indicated that kitchen managers are responsive to requests and feedback, so they feel a great sense of agency over what is ordered and prepared for the house. Of note, many respondents commented on unsanitary conditions in their kitchens.

Food plays an integral role in the co-op experience. Seventy-one percent of respondents said that food was "central" or "very central" to their sense of community in the house. Sixty-seven percent of members said that the communal environment of the co-ops "influenced" or "heavily influenced" the way they prepare food. They commented how much they have learned about cooking, and most enjoyed the ability to cook with their housemates and to cook foods for different diets (e.g., vegan and vegetarian).

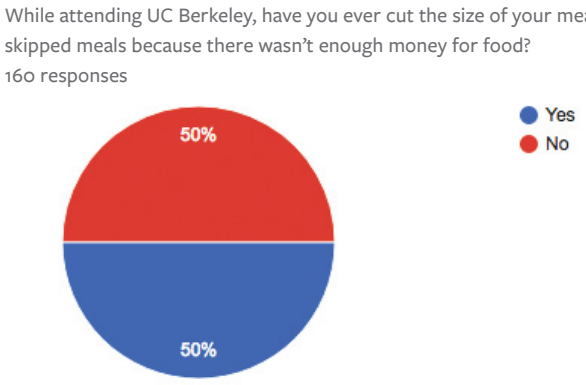
> *"Eating together is a big part of the co-ops. Most of the time I spend with people is during meals, and it's wonderful no matter how busy we get. There's always someone to talk to in the kitchen!"*
>
> *"I love cooking now and I think I will keep doing it for life."*
>
> *"Influenced how I prepare food, what I eat, and how I conserve."*
>
> *~ Berkeley Student Cooperative Members*

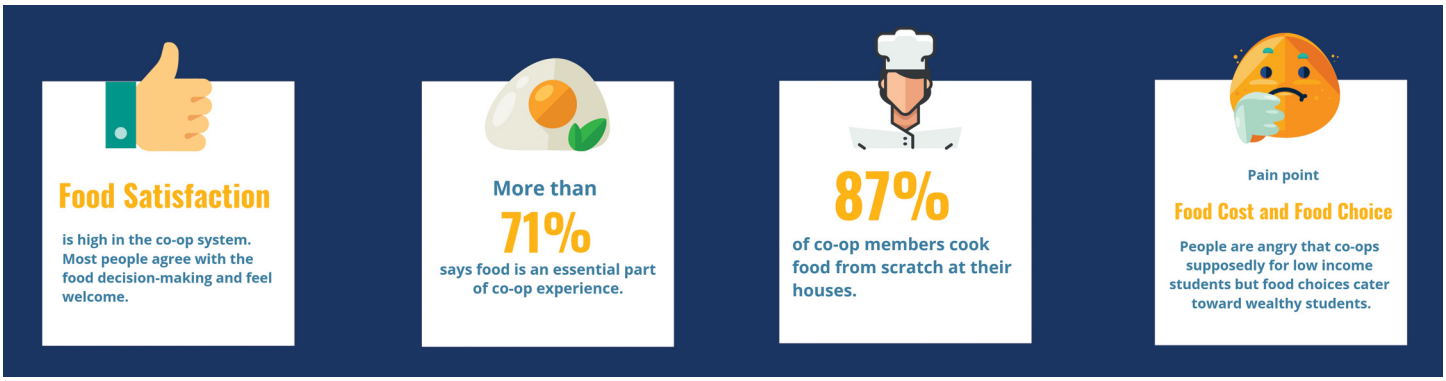
BSC boasts a diverse demographic of the student population, particularly of LGBTQ+ students and students with disabilities. This inclusivity is inherent to the structure of the co-ops, as they were born out of an idea to provide low-cost housing, thereby giving an educational opportunity to people who might not otherwise be able to afford a university education. The co-ops give preferential access to members of the UC Berkeley Educational Opportunity Program (EOP), which serves first-generation, low-income, and underrepresented college students.

It is important to note, however, that some members were critical of their houses' attitudes towards diversity and inclusion. Several respondents reported feeling that the co-ops are increasingly being filled with white, wealthier students who could afford to live elsewhere, and instead choose to live in the co-ops because of their sense of community and culture. Members made a specific connection between equity and inclusion and food choices.

> *"We buy hella expensive stuff for no reason. Like organic milk and stuff...Coops are for low income, so lets make the money we have count."*
>
> *"There is a lack of Asian groceries, I often have to purchase Asian groceries [myself] if I want to cook Chinese food."*
>
> *"We buy an abundance of vegan/vegetarian alternatives and we also buy so many fruits and vegetables but I don't think our kitchen manager does the best job of being aware of other staples people want to order like onions and chicken. Also, because she is a white American vegan, she centers our food around a mainly American vegan diet so it's not the most culturally aware food supply but I'm still grateful."*
>
> *~ Berkeley Student Cooperative Members*

Data on food insecurity among coop members was inconclusive. The survey asked if participants had ever cut the size of their meals or skipped meals because there wasn't enough money for food both before and during UC Berkeley attendance. In our survey, 29.4 percent of respondents said they had skipped meals prior to attending Berkeley, compared to 50 percent who said they had skipped while in college. However, we did not include a question about whether or not





Data collection by Samantha Barney, Justin Loew, Shannon Prendergast, Julia Scheinman, and Garrett Seno. Visualization by Boyue Xu.

respondents had skipped meals since joining the co-op, and therefore we cannot properly determine the effect co-ops have on the food security of their members. Future studies will have a more nuanced query. Yet several respondents did mention that their food security had improved since joining BSC.

"[Since coming to Berkeley I had a] decline in food quality, etc. However, since arriving at the co-ops I have not experienced food insecurity."

"Only before moving to the co-op. Before, I had to live off chips and snacks."

~ Berkeley Student Cooperative Members

Policy Recommendations

- Require co-ops to collect demographic information about their members so as to create a baseline for evaluating diversity, equity, and inclusion.
- Increase the campus-wide visibility of the Berkeley Student Cooperative as a system that supports first-generation, low-income, and underrepresented students by making it abundantly clear that Educational Opportunity Program (EOP) students receive preferential room and board, deposit reduction, and access to need-based scholarships:
    - Feature on the front page of the Berkeley Student Collective website (currently the information is buried).
    - Add information on the BSC to each of the Division of Equity and Inclusion and Centers for Educational Equity and Excellence websites (Transfer Student Center, Berkeley Underground Scholars, Undocumented Student Program, Re-entry Student Program, etc.)
    - Train all EOP and other Center for Educational Equity and Excellence staff on co-op resources.
    - Regularly remind EOP students of BSC via an email blast near the end of each semester and fliers in program offices.
- Incorporate trainings on the intersections of diet with diversity, equity, and inclusion into kitchen manager workshops. Include discussions of food allergies. Also require a condensed version of the workshop for house workshift cooks.
- Undertake more frequent health inspections and better member training in co-op kitchens. Use incentive-based awards as necessary for "cleanest co-op."

Campus Influencers

- Berkeley Student Cooperative, particularly the central office professional staff and student board of directors
- Individual cooperative houses, particularly kitchen managers
- Centers for Educational Equity and Excellence, particularly Educational Opportunities Program

FUTURE RESEARCH

In the last three years, the Berkeley Food Institute has studied many components of the UC Berkeley food system. The work presented here is not exhaustive; in the future we hope to further investigate additional aspects of the campus food system, including:

- Food and agriculture-related faculty:
  - Demographic data
  - Hiring and tenure patterns per relevant schools/colleges
- Food and agriculture graduate students:
  - Graduate student instructor and graduate student researcher salaries, funding packages, and completion rates in food and agriculture-related fields compared to other disciplines at UC Berkeley
  - Demographics of graduate students working in food and agriculture
  - Experiences of graduate students in Cooperative Extension
- Postdoctoral fellow and lecturer salaries in food and agriculture-related fields compared to other disciplines at UC Berkeley
- Campus food waste
- Agricultural and other labor standards for campus food procurement
- Food-related career paths among UC Berkeley alumni
- Food service work on campus: staff and student union activism
- The Karuk–UC Berkeley Collaborative

Visualization by Grace Lihn.

Student researchers for the Foodscape Mapping Project: (From left) Hortencia Rodríguez, Dennis Uyat, and Melina Packer. Photo by Jonathan Fong.

CONCLUSIONS

As this report demonstrates, the UC Berkeley campus is a complex and dynamic food system in itself, responsible for meeting the varied needs of over 41,000 students; 1,500 full time faculty; 8,800 staff; 750 lecturers; 1,400 postdoctoral fellows; and countless community members and alumni who frequent campus regularly. It is the site of a 150-year legacy of extensive food and agricultural teaching and research. It has many gardens that produce food and provide education; almost 50 campus eateries—and hundreds of food service workers—that serve the campus population; vibrant student-led groups gathering around food topics; and multiple service programs to address food and health inequities for vulnerable members of the campus community.

There are many exciting developments across campus. Among them are: a growing student demand for interdisciplinary, practical, experiential education in food systems topics, and the development of the Foods Systems Minor and Graduate Certificate in Food Systems in response to this demand; an increase in the number of food production gardens, including an innovative new rooftop garden; the tremendous progress of the Basic Needs Security Committee; and advances in addressing gaps and affirming diversity, equity, and inclusion in both pedagogy and campus services.

At the same time, we are witnessing significant inequalities and injustices across the university. These include the presence of food insecurity among a sizable number of undergraduate and graduate students, lower paid staff, and lecturers that hampers their academic and work performances; disabled students being excluded from agricultural and research courses and opportunities; student groups not being as welcoming of underrepresented students as they could; a Greek system with vastly different food options for male- and female-identified students, as well as other race and class-based disparities; and unstable funding for crucial food and health-related service programs.

Our campus food system still has a way to travel before it meets the campus principles of community. We therefore need a campus-wide food policy that includes the recommendations above in a comprehensive and integrated way. The various decision-makers who can influence each recommendation need to take responsibility and act with alacrity, particularly on issues that directly affect our bodies, livelihoods, and mental-emotional health. We recommend the formation of a **UC Berkeley Food Policy Council**, that directly advises the Chancellor and her cabinet on campus food systems issues. Council members should reflect the broad diversity of campus food systems players, including representatives from food and agriculture-related faculty and deans, food service workers, undergraduate and graduate students, Facilities Services, Division of Student Affairs, University Health Services, and leased campus eateries.

Visualization by George Geng.

To encourage marginalized campus members to feel much more a part of our community, our food policy must contend candidly with the lesser known history of racial, colonial, labor, and gender exploitation behind many of the university's buildings, sites, and its pedagogical legacy. The renaming of the new student hall on Bancroft Way after Berkeley's first tenured black professor is a small but positive step. The campus must also acknowledge the traditional owners of the land on which UC Berkeley now exists: the Ohlone people, who have lost their land access and foodways.

Many students, staff, and faculty choose to come to UC Berkeley because of its reputation for being a university where equity, inclusion, and justice are upheld and can be expressed and advocated openly. We have a responsibility to uphold our Principles of Community. Food is a central part of our collective experience—it is essential to our well-being and can bring us closer together in the midst of a fractured and tempestuous national and international climate. By getting our kitchen in order, we can help build a successful campus food system that inspires universities across the country.

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44. Within PHC, we received even responses from across the council, but IFC respondents were concentrated in a smaller number of chapters, including a predominantly people-of-color house. So while IFC is more ethnically diverse than PHC, our data is likely skewed toward more diversity than the reality of IFC. IFC respondents were: 41 percent Latinx, 37 percent white, 25 percent Asian/Pacific Islander, 7 percent black, 2 percent Native American/Alaska Native, 3 percent prefer not to answer. Survey respondents were asked to check all boxes that apply, so totals are above 100 percent. Ninety-one percent identify as heterosexual, and 58 percent receive financial aid from the university.

45. We were not able to obtain data on wages and benefits of PHC and IFC professional food service staff. This needs to be addressed in future work.

46. We did not include a question about whether or not respondents had skipped meals since joining the Greek system, and therefore we cannot properly determine the effect Greek life has on students' food security. Future studies will have a more nuanced query.

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Cover and back cover: Detail of an interactive geographic map of locations of important food-related services and facilities at UC Berkeley. Data collection by Emily Altman, Jenica Bautista, Youree Choi, Isabella Chow, KC Chung, Kim Guess, Stephanie Moore, Nathalie Munoz, Melina Packer, Will Payne, Anna Perhach, Meg Prier, Hortencia Rodríguez, Natalia Semeraro, Margaret Shi, Hannah Tong, Noreen Truong, Janet Xu, and Lucy Yu. Visualization by Will Payne using Leaflet. Map icons by Shalandy Zhang. Map tiles by OpenStreetMap and MapBox Studio.

- [x] **Basic Needs Services**
- [x] **Campus Gardens**
- [x] **On-Campus Eateries**
  - Cal Dining Location
  - Third-Party Operator
- [x] **Self-Service Facilities**
  - Lactation Rooms
  - Microwaves
  - Water Refill Stations