

Institutional Report for the WSCUC Thematic Pathway for Reaffirmation

December 2022

Site Visit Scheduled: February 15-17, 2023



TABLE OF CONTENTS

I. Component 1: Introduction.....	4
I.A. Overview	5
I.B. A Quick Guide to the Self-Study Report	5
I.C. A Brief Summary of the Self-Study Process.....	5
I.D. Institutional Context	6
I.D.1. Campus Overview	6
I.D.2. Student Growth.....	8
I.D.3. Leadership	9
I.D.4. Faculty Research.....	10
I.D.5. Equity, Diversity, and Inclusion	10
I.E. Response to WSCUC Recommendations.....	11
I.E.1. Recommendation 1: Follow through on its plans to complete the implementation of the GE program and then proceed to implement plans to assess the impact of the GE program.	11
I.E.2. Recommendation 2: Continue to provide adequate staffing in undergraduate, graduate, and GE assessment and in institutional research.	13
Component 2: Compliance	15
II.A. Overview	16
II.B. Standard 1: Defining Institutional Purposes and Ensuring Educational Objectives.....	16
II.B.1. Institutional Purposes.....	16
II.B.2. Integrity and Transparency.....	16
II.C. Standard 2: Achieving Educational Objectives Through Core Functions	17
II.C.1. Teaching and Learning	17
II.C.2. Scholarship and Creative Activity	17
II.C.3. Student Learning and Success.....	17
II.D. Standard 3: Developing and Applying Resources and Organizational Structures to Ensure Quality and Sustainability.....	17
II.D.1. Faculty and Staff.....	17
II.D.2. Fiscal, Physical, and Information Resources.....	18
II.D.3. Organizational Structures and Decision-Making Processes.....	18
II.E. Standard 4: Creating an Organization Committed to Quality Assurance, Institutional Learning, and Improvement	18
II.E.1. Quality Assurance Processes	18
II.E.2. Institutional Learning and Improvement.....	18

Component 8: Thematic Self-Study	19
III.A. Thematic Self-Study Rationale and Student Profile	20
III.A.1. Undergraduate Student Profile	20
III.A.2. Graduate Student Profile	21
III.B. Themes and Research Questions	22
III.B.1. Inclusive Learning for a Diverse Student Body	22
III.B.2. Engagement and Participation in Research	22
III.B.3. Participation in Learning Communities	23
III.C. Study Design	24
III.D. Analyses and Significant Findings	27
III.D.1. Descriptive Data: Undergraduate Students	27
III.D.2. Descriptive Data: Graduate Students	30
III.D.3. Learning Experiences (RQ1): Findings for Undergraduate Students	32
III.D.4. Learning Experiences (RQ1): Findings for Graduate Students	34
III.D.5. Research Participation and Engagement (RQ2): Findings for Undergraduate Students	35
III.D.6. Research Participation and Engagement (RQ2): Findings for Graduate Students	36
III.D.7. Learning Communities Participation (RQ3): Findings for Undergraduate Students	36
III.D.8. Learning Communities Participation (RQ3): Findings for Graduate Students	37
III.E. Discussion of Findings	39
III.E.1. Limitations	39
III.E.2. Learning Experiences	40
III.E.3. Research Engagement and Participation	41
III.E.4. Learning Communities	42
Component 9: Conclusion	44
IV.A. Overview	45
IV.B. Supporting Students	45
IV.B.1. Undergraduate Students	45
IV.B.2. Graduate Students	47
IV.B.3. Strengthen Program Learning Outcomes Assessment	49
IV.C. Supporting Faculty and Research	50
IV.D. Supporting Campus Operations	51
IV.D.1. Strategic Plan Refresh	51
IV.D.2. Student Data Warehouse (SDW)	52
IV.D.3. Campus Budget Planning	52
IV.E. Recommendations for Campus Priorities	53



Component 1

Introduction

INTRODUCTION

I.A. Overview

The [University of California, Irvine](#) (UCI), one of 10 campuses in the University of California system, was founded in 1965 with a mission to catalyze the community and enhance lives through rigorous academics, cutting-edge research, and dedicated public service. To that end, we greatly appreciate the opportunity to conduct a self-study on a theme of our choosing and improve the ways our academics, research, and public service propel undergraduate and graduate students' learning experiences so that they may become leaders and change agents and fulfill UCI's mission. We also sincerely thank the review team for taking the time to review the self-study report and provide insightful feedback on improving our campus.

UCI experienced substantial student growth over the last 10 years. As such, our thematic self-study was an in-depth empirical examination of how various undergraduate and graduate learning experiences, research, and learning communities impact student success across our diverse student population – a key factor in becoming effective leaders and change agents. This self-study review provided an opportunity for the institution to ascertain reliable evidence on the impact of rigorous academic and research experiences on fulfilling our mission-driven educational purpose.

I.B. A Quick Guide to the Self-Study Report

In accordance with the [Thematic Pathway for Reaffirmation Guidelines](#), this institutional report addresses four of the nine WSCUC accreditation review components (i.e., Components 1, 2, 8, 9). The narrative contains hyperlinks that provide additional information, such as web pages, process/unit descriptions, data, policies, and other artifacts that support the narrative. When appropriate, the linked materials also are included in the appendices and are identified in the narrative as, Appendix X. Below are links to UCI's acronyms, appendices, and references:

- [UCI Acronyms](#) (Appendix 1A)
- [List of Appendices](#)¹ (Appendix 1B)
- [References](#)² (Appendix 1C)

II.C. A Brief Summary of the Self-Study Process

In February 2020, WSCUC approved UCI for the alternate Thematic Pathway for Reaffirmation. Preparation for the 2023 reaffirmation of accreditation began in July 2020 with the establishment of the [Steering Committee on Reaffirmation](#) (SCOR) (Appendix 1D) and Steering Committee on Reaffirmation Executive Committee

¹Appendix items consist of files that have been submitted for review. Links to webpages and "live" policy files are not included as appendices.

²To improve readability, references are numbered in the institutional report.

(SCOREX). SCOR is an [inclusive group of faculty, administrators, Academic Senate leaders, staff, and students](#) (Appendix 1E) that has been charged with providing leadership and direction for the TPR process. Members of both SCOR and SCOREX contributed to the identification, development, and promotion of the self-study themes; served on theme-specific subcommittees; facilitated broad campus participation in the self-study process; and participated in campus preparations for the accreditation review site visit in winter 2022. In March 2021, in collaboration with SCOR and SCOREX, the Division of Academic Planning (DAP) submitted [UCI's TPR self-study proposal](#) (Appendix 1F) to WSCUC. It was approved in April 2021.

UCI's self-study involved active participation from several academic, administrative, and educational support [units across the institution](#) (Appendix 1G). UCI's thematic self-study (i.e., Component 8) was designed and led by three faculty members. All who participated were guided and supported in providing accurate and reliable information and data. The collection of these data and information and the design of the thematic self-study began in the summer of 2021. In May 2022, SCOR and SCOREX reviewed and discussed all data and information for Components 1 and 2. In September 2022, SCOR and SCOREX reviewed Component 8 and contributed to the narrative for Component 9. The Academic Senate and senior administration reviewed the self-study report in October 2022. After all the components were reviewed, the complete self-study report was updated and submitted to WSCUC in December 2022.

I.D. Institutional Context

UCI shares the mission of the entire University of California system under the Master Plan for Higher Education – “to serve society as a center of higher learning, providing long-term societal benefits through transmitting advanced knowledge, discovering new knowledge, and functioning as an active working repository of organized knowledge.”

- A detailed account of UCI's institutional context related to the institutional proposal and WSCUC standards is available in the Accountability Profile. The [Accountability Profile](#) expands on the following overview, describes the financial capacity of UCI, and provides more information about our faculty and students.
- A comprehensive and detailed account of the university and our long-term planning is available in our strategic plan, [Bright Past. Brilliant Future.](#)

I.D.1. Campus Overview

As one of 10 campuses of the University of California, UCI is governed by the [UC Board of Regents](#). The campus resides on 1,474 acres of coastal foothills and has grown to about 37,000 students, nearly 1,500 ladder-rank faculty, and more than 12,000 campus and medical center staff members. All areas of the campus are committed to advancing the four pillars of UCI's strategic plan and reaching new heights of excellence and social impact.

Academically, UCI is organized into the following 14 schools: [Claire Trevor School of the Arts](#), [School of Biological Sciences](#), [Paul Merage School of Business](#), [School of Education](#), [Henry Samueli School of Engineering](#), [School of Humanities](#), [Donald Bren School of Information & Computer Sciences](#), [School of Law](#), [School of Physical Sciences](#), [School of Social Ecology](#), [School of Social Sciences](#), [School of Medicine](#), [Sue & Bill Gross School of Nursing](#), [School of Pharmacy and Pharmaceutical Sciences](#), and the planned [School of Population and Public Health](#). There are 89 undergraduate, 200 graduate (all-inclusive), 56 PhD, five professional doctorate, and five distance education programs across these schools. In summer 2022, WSCUC approved an additional location at the Richard J. Donovan Correctional Facility in San Diego County for a special undergraduate degree program (i.e., [UCI LIFTED](#)) for the incarcerated population (Additional Location Report, Appendix 1H). All academic units uphold the following institutional academic goals:

- Prepare global citizens equipped with the tools of analysis, expression, and cultural understanding required for leadership in today's world.
- Provide opportunities for research, independent study, and the creative process as complements to classroom study.
- Promote an inclusive learning environment that promotes collaboration, well-being, and the pursuit of creative work and scholarship.

Beyond academics, students at UCI enjoy a vibrant student life. UCI offers [on-campus housing](#) for over 14,000 undergraduate and 3,000 graduate students with convenient campus resources. Off-campus housing resources also are available through the [Anteater Housing Network](#). Students also have access to over [900 campus clubs and organizations](#). UCI also provides academic, personal, and career assistance with the motto, "No student ever has to go it alone." [Student support services](#) are wide-ranging and include mental and physical wellness, basic needs, and the [DREAM Center](#). Finally, UCI's intercollegiate athletic program supports teams for [18 NCAA Division I sports](#)—nine men's and nine women's sports. The sports program has won 28 national championships in nine different sports.

UCI also is one of the largest employers in Orange County and generates an annual economic impact of \$7 billion locally and \$8 billion statewide. The campus is committed to empowering over 16,000 non-teaching academic, campus, and medical staff members to thrive, and the human resources department provides a number of resources, such as [advocacy](#), [wellness](#), and [engagement](#), to attract and motivate a diverse workforce.

UCI engages the community through many activities, events, partnerships, and services. Below are some of the ways the campus connects with the community.

- The [UCI Jack and Shanaz Langson Institute and Museum of California Art](#) has made it a priority to engage with educational communities and local residents. It has developed close working relationships with elementary and secondary schools from 19 districts in the region and, since last fall, has provided on-site and virtual programs for local youth and their teachers.
- UCI Health provides quality [healthcare](#) and access to innovative [clinical trials](#) to Orange County and surrounding communities.
- UCI's [educational partnerships](#) collaborate with school districts, community-based organizations, community colleges, and four-year institutions to work on multiple initiatives aimed at the ultimate goal of increased student academic achievement and college access.
- The campus offers arts, business, educational, and other informative [events](#) throughout each year. For example, the [Claire Trevor School of the Arts](#) offers more than 200 student performances and exhibitions; brings hundreds of Orange County K-12 students through classes and facilities; and partners with numerous local arts, cultural, educational, and civic organizations.

The campus commitment across all the above areas is a primary reason for where UCI is today:

- UCI is one of 63 elected institutions in the [Association of American Universities](#).
- UCI is ranked among the [nation's top 10 public universities for the eighth year in a row](#) by U.S. News & World Report, which also puts the campus among the top 10 for social mobility.
- *The New York Times* named UCI No. 1 among U.S. universities "doing the most for the American dream" in its 2017 and 2015 [College Access Index](#).
- [48 UCI graduate programs have been ranked in the nation's top 50](#) among public universities by *U.S. News & World Report*.
- For the 22nd consecutive year, *U.S. News & World Report* has recognized UCI Medical Center as [one of America's Best Hospitals](#) in 2022.
- In 2019, UCI launched the Brilliant Future campaign to support the fulfillment of strategic planning goals. As of fall 2022, the campaign had raised \$1.3 billion and engaged with 77,000+ donors and 47,000+ alumni.
- Additional highlights about UCI can be found in [UCI's Facts and Figures](#).
- Additional information about the Susan & Henry Samueli College of Health Sciences and UCI Health can be found in their [annual impact reports](#).

I.D.2. Student Growth

Since 2012, UCI's undergraduate and graduate student populations have significantly increased and changed. Changes to the application review process (i.e., holistic review) and other strategic initiatives to better serve ethnic minority, first-generation, and low-income populations significantly contributed to the changes. As a result, UCI's undergraduate students grew by 32.6%, from 22,216 in 2012 to 29,449 in 2021 (see Table below). UCI's graduate students also grew by 34.1%, from 5,263 in 2012 to 7,056 in 2021 (see Table below).

Table 1: Undergraduate and Graduate Students³

Undergraduate	2012 Total	2021 Total	% Change	Graduate	2012 Total	2021 Total	% Change
Total	22,216	29,449	32.60%	Total	5,623	7,056	34.10%
Female	12,055	15,931	32.20%	Female	2,155	3,498	62.30%
URM	5,805	9,904	70.60%	URM	599	1,358	126.70%
First-Generation	9,735	13,464	38.30%	First-Generation	n/a	n/a	n/a
Low-Income	7,179	9,569	33.30%	Low-Income	n/a	n/a	n/a

I.D.3. Leadership

UCI operates under a shared governance model under the UC Regents standing orders to collaboratively ensure the quality of instruction, research, and public service at the University and protect academic freedom.

[Howard Gillman](#) was appointed the sixth chancellor of UCI in September 2014, having served as provost and executive vice chancellor since June 2013 and interim chancellor since July 2014. Chancellor Gillman serves on major boards examining new paradigms for inclusion, including the governing board of the Hispanic Association of Colleges and Universities – the only national association representing existing and emerging Hispanic-serving colleges and universities.

- [Office of the Chancellor organizational chart](#)

[Hal Stern](#) has served as UCI's provost and executive vice chancellor since March 2020. Since joining the university in 2002 as founding chair of the Department of Statistics, he has held a range of academic and administrative leadership positions, including serving as the Ted and Janice Smith Family Foundation Dean of the Donald Bren School of Information & Computer Sciences and vice provost for academic planning.

- [Office of the Provost organizational chart](#)

The [Irvine Division of the Academic Senate](#) represents the Irvine faculty in the shared governance of the University of California. The Academic Senate provides the organizational framework that enables the faculty to exercise its right to participate in the university's governance. The faculty voice is formed through a deliberative process that includes the standing committees of the Academic Senate, the cabinet, the assembly of the Academic Senate, and their systemwide counterparts. In accordance with the tenets of shared governance, the Academic Senate's responsibilities include authorizing, approving, and supervising all courses and determining

³ First-generation and low-income data comparisons were not available for graduate students.

the conditions for admissions, certificates, and degrees. In other areas of university life, the Academic Senate exercises an active advisory role. It has specific authority from the regents to advise the chancellor on budget matters. The Academic Senate also has influence over career advancement and the quality of UCI's faculty through its recommendations to the chancellor and the provost, deans, and chairs on appointments and promotions. In addition, it protects the professional environment for faculty members with committees devoted to preserving academic freedom and ensuring due process in personnel matters.

- [Academic Senate councils and committees](#)

I.D.4. Faculty Research

UCI faculty's cutting-edge research is the cornerstone of the campus mission and strategic plan. Faculty's innovative and interdisciplinary research activities are supported by their programs, schools, Office of Research, and several research centers and institutes:

- [Organized Research Units](#)
- [Special Research Programs](#)
- [Campus Centers](#)
- [School Centers](#)
- [Other Centers and Institutes](#)

Several noteworthy accomplishments related to faculty research are highlighted below:

- Three UCI faculty members, one postdoctoral alumnus, and one PhD alumnus have received Nobel Prizes. Our Nobel laureates have won the prize in chemistry and physics.
- Among many prestigious [faculty awards and honors](#), UCI has 25 total members of the National Academy of Sciences, 16 members of the National Academy of Engineering, and six members of the National Academy of Medicine. UCI also has 39 total members of the American Academy of Arts and Sciences and 37 Guggenheim Fellows.
- In 2020-21, UCI had a record-breaking year for [research funding](#), including \$592 million in grants and contracts – the most support in campus history and 12% more than in the previous year.
- Focused on innovations that make an impact, UCI has 600+ patents, 120+ inventions generated in 2019-20, and 100+ dedicated research units solving global challenges.

I.D.5. Equity, Diversity, and Inclusion

UCI is committed to excellence through diversity and to the goal of reflecting diversity in our faculty, student, and staff populations as well as our teaching, research, and public service. Led by the Office of Inclusive Excellence (OIE), the campus [expects equity](#), [supports diversity](#), [practices inclusion](#), and [honors free speech](#).

UCI's designation as a minority-serving institution, [Hispanic-serving institution](#), [Asian American and Native American Pacific Islander-serving institution](#), as well as being a founding member of the [Alliance of Hispanic Serving Research Universities](#) is a result of the ongoing commitment to ensure accountability, provide training and education, conduct responsive research, and build sustainable partnerships. Below are some of the results of UCI's inclusive efforts:

- Nearly half of UCI bachelor's degrees awarded in 2020 went to first-generation college students (i.e., [upward socioeconomic mobility](#)).
- UCI is the [top choice for first-generation students](#) among all UC campuses for four consecutive years.
- UCI's [Black Thriving Initiative](#) strives to promote Black well-being and success.
- The [LEAD-ABC program](#) has recruited the largest number of Black first-year medical students in the history of UCI's School of Medicine.
- The [UCI Orange County Alliance for a Latinx Thriving University](#) is guided by 30 Orange County Latino business and community leaders.
- UCI is a charter member of the [American Association for the Advancement of Science STEMM Equity Achievement \(SEA\) Change program](#) and a recipient of their bronze award.

I.E. Response to WSCUC Recommendations


After our last accreditation visit in 2012, UCI received two recommendations related to the assessment. Below are updates on the two recommendations.

I.E.1. Recommendation 1: Follow through on its plans to complete the implementation of the GE program and then proceed to implement plans to assess the impact of the GE program (CFRs 2.2, 2.3, 2.4, 2.5, 2.6, 4.3, 4.4, 4.6, 4.7).

As noted in our [2017 progress report](#) (Appendix1I) to WSCUC, UCI has made considerable progress in these areas and continues to be dedicated to effective implementation and assessment of general education (GE).

I.E.1.a. Integration of relevant GE outcomes into course syllabi.

UCI successfully integrated relevant GE outcomes into course syllabi through a multiphase process. First, we informed GE instructors of the learning outcomes for their courses by: 1) including [GE learning outcomes on GE course pages](#) in our [learning management system, Canvas](#); 2) listing GE learning outcomes on our central UCI assessment website, the [Center for Assessment and Applied Research \(CAAR\)](#); and 3) including GE learning outcomes on [all notices to departments and instructors](#) informing them of upcoming GE assessment work required (Appendix 1J and 1K). Second, the [Academic Senate Subcommittee on Courses](#) implemented a [policy](#) requiring all new GE courses submitted for approval to include learning outcomes on syllabi. Moreover,



the Academic Senate [Council on Educational Policy](#) (CEP) will continue to monitor syllabi as part of its review of GE. Finally, UCI is currently developing an online syllabus builder tool that will automate the inclusion of GE course learning outcomes in over 500 unique GE course syllabi.

[I.E.1.b. Alignment of grandfathered courses with learning expectations.](#)

The goal to align grandfathered courses with learning expectations has been completed. Per [CEP's procedure](#), all active GE courses are not granted permanent GE status; rather, courses with a GE designation are reviewed every five years and must continue to meet [relevant criteria](#).

[I.E.1.c. Implementation of the GE curriculum.](#)

The CEP also approved the implementation of the new [GE curriculum in 2011](#). As part of its review (2013-2018), the CEP collected course syllabi, required exams and assignments, and course restrictions. The CEP acknowledges that all GE designations can be taught with a variety of methodologies and pedagogies; as such, the course learning outcomes are written in general terminology that allows instructors academic freedom to focus on the designation as they deem appropriate for the course. Across all categories, the CEP approved 99% of courses (most often removing GE designation from courses no longer active) and found that syllabi and course curricula reflected the relevant student learning outcomes. Moving forward, the UCI Academic Senate's [Policy and Assessment Subcommittee](#) (SCPA) will develop a schedule for continued review of GE for 2023-2030.

[I.E.1.d. GE Assessment.](#)

Per recommendations from the WSCUC 2012 action letter, UCI's former Assessment Committee (now known as SCPA) commenced with its assessment of GE course-level learning outcomes once the CEP concluded its review of categories and designated the GE curriculum as fully implemented. Assessment of learning outcomes across two GE categories began in fall 2014. Since then, SCPA has annually assessed learning outcomes across GE, at times pausing its efforts in order to engage in "[meta-assessment](#)," or evaluation of our assessment practice (Appendix 1L). This meta-assessment has culminated in the creation of a [General Education Faculty Learning Community/GE Institute](#). In spring 2022, faculty teaching GE in category II – science and technology – were invited to participate in a GE learning community. Five faculty across different schools were selected. They met several times throughout the quarter and received a small stipend for this work. Meetings were facilitated by the director of faculty development, with support from the director of assessment and applied research. The goal was for faculty to: 1) discuss assessment methods for GE II courses; 2) identify concepts in GE II courses with which students tend to struggle; and 3) review effective pedagogy in GE II. Faculty then developed an online survey that was administered to most students enrolled in GE II courses in fall 2022, assessing each of the GE II learning outcomes. The faculty participating in the learning community

analyzed the survey results and met again to disseminate best practices on how to improve GE II teaching and learning. UCI then continued with this learning community model to assess the remaining GE categories.

I.E.2. Recommendation 2: Continue to provide adequate staffing in undergraduate, graduate, and GE assessment and in institutional research (CFRs 3.1, 3.4, 3.8, 4.2, 4.3, 4.4, 4.5, 4.7).


I.E.2.a. Staffing for assessment.

Since 2012, UCI also has committed to improving the ecosystem for assessment and student success. In May 2015, UCI established the [Office of the Vice Provost for Teaching and Learning](#) (OVPTL), which oversees two distinct units supporting undergraduate, graduate, and GE assessment. [The Division of Teaching Excellence and Innovation](#) (DTEI) supports faculty efforts to translate assessment projects (e.g., literature review, local assessment research projects, etc.) to individual faculty development and institutional reform in assessment. The [Collaboratory for Data Analytics for Student Success](#) (CODAS) manages the UCI Measuring Undergraduate Success Trajectories project ([UCI-MUST](#)), a project focused on developing measures of student success and referred to in our thematic self-study. In addition, CAAR has three permanent, full-time staff members. Among its many functions, CAAR provides direct support for the assessment of student learning outcomes in undergraduate programs, GE, and core competencies. In early 2022, the center expanded its scope to also provide direct support for graduate assessment and hired a staff member to lead that effort; funding for this additional staff member is now a permanent part of the center's budget.

In summer 2022, CAAR joined the Division of Institutional Research (DIR) in the [Office of Academic Planning and Institutional Research](#) (OAPIR). This transition will enable both offices to share resources and partner on providing institutional data and assessment results that are actionable and result in continuous improvement. (Please refer to Component 9 for additional explanation.)

I.E.2.b. Staffing for institutional research.

UCI also has invested in the institutional research function in multiple ways. First, it increased its core institutional research staff from three full-time employees (FTE) in 2010 to the current [six FTE](#). Second, as of 2020, it realigned the Office of Institutional Research with the Office of Academic Planning, creating synergies across the newly formed OAPIR that would have been structurally difficult when institutional research was part of the Division of Finance and Administration. Third, it shifted the three information technology support FTE that reported to the institutional research unit to the central information technology office, allowing for broader, campuswide support of the institutional research function by improving centralized data resources and analytics.



Additionally, as UCI's institutional research function has grown, the university has focused on the federated model of institutional research, hiring multiple institutional research support staff in various schools and administrative units across the campus. For example, staff in the DIR have served on at least eight hiring committees over the last decade for decision support positions in both academic and administrative units where they could establish long-term partnerships. Such units include the [Office of Enrollment Management](#) (and, more specifically, the enrollment management analytics team), DTEI, and CAAR.

Finally, DIR was also able to expand ties with other units – the [Graduate Division](#) among them – as their data generation, use, and knowledge grew. With these partnerships have come additional support efforts, such as the student data warehouse and the [Comprehensive Analytics for Student Success](#) initiative (see Component 9), which allow the campus multiple pathways to data and decision support. Such efforts have fostered a community of data-informed users and created a network of knowledge workers that will continue to expand to the function of institutional research as more resources come online.



Component 2

Compliance

COMPLIANCE

A. Overview

This section provides the information, data, descriptions, and responses that comply with WSCUC Standards, Criteria for Review (CFR), and federal requirements. DAP coordinated meetings with and information collection from academic, student services, and administrative units across the university. Some CFRs have multiple links when compliance with a CFR overlaps among different units that have similar responsibilities (e.g., Registrar, Admissions, Financial Aid). UCI's Steering Committee on Reaffirmation (SCOR) reviewed the collected information and data, and its members then discussed and responded to the reflection and synthesis prompts.

II.B. Standard 1: Defining Institutional Purposes and Ensuring Educational Objectives

II.B.1. Institutional Purposes

UCI's [vision](#), [mission](#), and [strategic plan](#) guide all academic, administrative, financial, and other institutional initiatives and programs (CFR 1.1). Despite a large number of academic programs, UCI's administrative and Academic Senate committees' review processes ensure appropriate oversight of educational objectives (CFR 1.2). UCI's [student data](#) (e.g., enrollment, retention, graduation rates, etc.) also are consistently monitored and reported by [DIR](#), which collaborates with similar data hubs (e.g., [Division of Finance and Administration](#) and [Enrollment Management](#)) and provides updated information for all units across the campus.

II.B.2. Integrity and Transparency

All UC campuses abide by the [UC guidelines](#) that ensure students, staff, and faculty have the freedom to express different perspectives (CFR 1.3), and the California Constitution (article 9, section 9) stipulates that all UC campuses operate with appropriate autonomy (CFR 1.5). UCI also is proud of its continuous [commitment](#) to ensuring that all students receive clear and truthful information about their educational experiences, feel supported to succeed, and have the right to voice their concerns (CFRs 1.4, 1.6). Finally, the [shared governance](#) between the faculty's [Academic Senate](#) and the institutional [administration](#) promotes principled and transparent collaboration in its legislative and operational oversight efforts (CFR 1.7). All institutional updates and changes are timely and candidly communicated to WSCUC (CFR 1.8).

II.C. Standard 2: Achieving Educational Objectives Through Core Functions

II.C.1. Teaching and Learning

UCI's faculty oversee the development and maintenance of academic degree programs that meet disciplinary standards and high academic rigor (CFRs 2.1, 2.2b, 2.3, 2.5). The programs conduct scheduled assessment reviews (CFR 2.6) of their learning outcomes to ensure that students' learning experiences align with the programs' expectations (CFRs 2.2; 2.2b; 2.4; 2.6). They also undergo scheduled external reviews (CFR 2.7) to ensure that program learning outcomes align with school, divisional (undergraduate and graduate), and institutional missions (CFRs 2.1, 2.2). In addition, UCI's undergraduate degree programs and OVPTL monitor, assess, review, and report on students' performance on the five core competencies and [GE learning outcomes](#) (CFRs 2.2a, 2.6).

II.C.2. Scholarship and Creative Activity

Excellence in [research and creative activities](#) is a cornerstone of UCI's mission and strategic plan (CFR 2.8) and a core component of student learning experiences – a distinguishing and shared characteristic of all UC campuses.

II.C.3. Student Learning and Success

All academic degree programs review disaggregated student performance and progress data as a part of their preparation for the external program review. This information is regularly reviewed by OVPTL and the [Graduate Division](#) as they identify and propose new institutional initiatives and make resource enhancement requests (CFR 2.10). Academic service units further facilitate student success efforts by providing timely information (CFRs 2.12, 2.14) and offering academic and related [resources](#) (e.g., tutoring, advising, financial aid, etc.) (CFR 2.13). Academic services and administrative units also undergo periodic reviews of their operations to make improvements to better support our students (CFR 2.11).

II.D. Standard 3: Developing and Applying Resources and Organizational Structures to Ensure Quality and Sustainability

II.D.1. Faculty and Staff

UCI's offices of [Academic Personnel](#) and [Human Resources](#) have established [policies](#) on the recruitment, hiring, orientation, workload, incentives, and evaluations of UCI faculty and staff (CFRs 3.1, 3.2). These campus-level offices manage these policies and facilitate the employment relationship between the institution and the faculty and staff. They, along with several other units (e.g., DTEI), also assist and support faculty and staff with development opportunities and resources to improve teaching, learning, and assessment of learning outcomes (CFR 3.3).

II.D.2. Fiscal, Physical, and Information Resources

The UC [Systemwide Budget Manual](#) governs UCI's budget planning. The planning process also is guided by the [strategic plan](#) and involves an update to the campus enrollment plan in the context of UC enrollment goals (CFR 3.4). With regard to information and technology, the [Office of Information Technology](#) is the main unit for support. The [UCI Libraries](#) (part of the [UC library system](#)) also ensure sufficient information support for faculty, students, and staff (CFR 3.5).

II.D.3. Organizational Structures and Decision-Making Processes

UC's [Board of Regents](#) appoints and evaluates UCI's chancellor, who oversees the performance of the provost and other executive officers (CFRs 3.6, 3.7, 3.8, 3.9). The academic, financial, and operational leadership ensures personnel quality and policies to fulfill UCI's mission, purpose, and strategic goals (CFR 3.10).

II.E. Standard 4: Creating an Organization Committed to Quality Assurance, Institutional Learning, and Improvement

II.E.1. Quality Assurance Processes

UCI continues to make improvements in its assurance of learning processes. CAAR guides and supports undergraduate and graduate faculty committees (e.g., SCPA) that conduct scheduled reviews of core competencies, GE, and program learning outcomes (CFR 4.1). Likewise, the DTEI provides assessment support and resources to improve curricula and pedagogy (CFR 4.4).

II.E.2. Institutional Learning and Improvement

DIR, along with other data hubs (e.g., CAAR) mentioned above, provides accurate and reliable data and information to all units across the institution so that they can make informed decisions about academic, operational, and other institutional structures and processes (CFRs 1.2, 4.2, 4.3). In fact, the collaborative and inclusive decision-making and review processes with appropriate internal and external stakeholders are an intentional institutional approach and reflect a core value that underscores UCI's achievements and strategic initiatives (CFRs 4.5, 4.6, 4.7).

Please refer to the compliance worksheet for our reflections on our Component 2 self-study findings. Additional discussion and plans of action are in our conclusion (Component 9).



Component 8

Thematic Self-Study

THEMATIC SELF-STUDY

VIII.A. Thematic Self-Study Rationale and Student Profile

In accordance with [UCI's strategic plan](#), [brilliant future campaign goals](#), [UC 2030 goals](#), and in light of the significant growth and demographic shifts of UCI's students, the goal of this self-study is to understand how learning experiences inside and outside of the classroom, participation in research, and participation in learning communities promote academic success, well-being, and the utility of education. The insights from the self-study will enable UCI to improve the ways in which we educate and support all students. This study focuses on both undergraduate and graduate student populations. Given the differences in levels and types of education, as well as various data sources, the undergraduate and graduate studies used different research designs to provide a more nuanced understanding of UCI students' learning experiences. In the sections below, we present summaries of UCI's undergraduate and graduate student profiles, the rationale for research themes, self-study designs, analyses, and discussion of findings. Please note that additional detailed information regarding the rationale, methodologies, and analyses are linked as supplemental files to remain within the requested TPR report length.

VIII.A.1. Undergraduate Student Profile

The undergraduate population at UCI has increased by 33% over the past decade (from fall 2012 to fall 2021), now serving 29,449 undergraduates (from 22,216). Below are highlights and a link to UCI's enrollment data hub.

- 30% of undergraduates are underrepresented minorities (URM),⁴ most of those being Hispanic students (26% Hispanic, with 20% Hispanic in 2012).
- 37% of undergraduates are Asian American and Pacific Islander (AAPI), a decrease from 47% in 2012.
- 7% of undergraduates are domestic out-of-state students, an increase from 2% in 2012.
- Over 42% of undergraduates are first-generation students and 33% are low-income. Further, over 54% are female and 8% have identified as LGBTQ+.
- [Student enrollment data hub](#)

UCI's undergraduate student outcome data indicate high levels of retention, graduation, and satisfaction with learning experiences. Below are highlights and a link to detailed student success and satisfaction data.

- The five-year average for first-year retention rates for freshman and transfer students are 94% and 92%, respectively.

⁴ A domestic student who identified their ethnicity or race as at least one of the following: Hispanic; African American/Black, non-Hispanic; American Indian/Alaskan Native; or Pacific Islander.

- Freshman and transfer students' six-year graduation rates are 84% and 91%, respectively.
- Undergraduate student satisfaction for the last five average ratings indicates high satisfaction (4 or higher, 1-5 rating scale) for overall education and quality of instruction in their majors.
- Undergraduate student success and satisfaction data matrix (multiple sheets) (Appendix 8A)
- [UC undergraduate student outcome data](#)

VIII.A.2. Graduate Student Profile

The graduate population at UCI has increased by over 34%, from 5,263 in fall 2012 to 7,056 in fall 2021, with significant growth from professional programs. Below are highlights and a link to UCI's enrollment data hub.

- Professional program enrollment has increased to 43.3% of the total graduate enrollment.
- UCI now serves more URM and female students at the graduate level than ever before, 19.2% of the graduate population are URM and 50% are female. The percentage of graduate students who identified as LGBTQ+ is 12%.
- The percentage of domestic out-of-state, as well as international students, has increased to 16.1% and 29.4%, respectively, in fall 2021.
- 26% of graduate students report being the first in their families to attend college.
- [Student enrollment data hub](#)

Graduate student outcome data across graduate program types (academic master's, professional master's, research doctorate, and professional doctorate) also indicate high levels of retention, graduation, and satisfaction with learning experiences. Below are highlights and a link to detailed student success and satisfaction data.

- For all four types of graduate programs (2017-2021), the five-year average of first-year retention rates is 94%. Some graduate students complete their program (e.g., professional master's programs) in one year; in such cases, retention and graduation rates have been combined.
- For 2016-2020, the five-year average of two-year graduation rate for academic master's programs is 81%, and for professional master's programs is 84%. For 2014-2018, the average four-year graduation rate for academic master's programs is 95%, professional master's programs is 96%, and professional doctorate programs is 79%. For 2012-2016, the average six-year graduation rate for professional doctoral programs is 92% and for research doctoral programs is 82%.
- Graduate student satisfaction for the last five average ratings indicates high satisfaction (4+, 1-5 rating scale) for academic experience and overall experience. In the past year, satisfaction with student life experiences slightly decreased, likely due to the transition to online education as a result of the COVID-19 pandemic.

- Graduate student success and satisfaction data matrix (multiple sheets) (Appendix 8B)
- [UC graduate student outcome data](#)

VII.B. Themes and Research Questions

As a minority-serving institution, UCI continues to ensure that all educational experiences serve as an effective means of attaining upward social mobility as well as being mission-driven, inclusive, supportive, and enriching for students of all backgrounds [7, 34]. UCI also is committed to enhancing learning experiences by providing opportunities to participate in innovative research activities and learning communities that nurture collaboration and promote academic success, well-being, and career development [4, 54, 73, 78, 79]. Therefore, to better understand how UCI's breadth of educational experiences impacts student success outcomes, this self-study focused on the following three themes:

IX. Inclusive learning for a diverse student body

X. Engagement and participation in research

XI. Participation in learning communities

XII.B.1. Inclusive Learning for a Diverse Student Body

The recent growth of UCI's diverse student population is a primary reason for this study. UCI aims to be a first-choice campus for all students, especially those traditionally marginalized in higher education in the United States ([UCI Strategic Plan Pillar 2](#)). The campus is dedicated to implementing practices to ensure that learning experiences inside and outside the classroom are supportive, welcoming, and inclusive for every student [5, 10, 20, 27, 45, 46, 47, 50, 68, 71, 74]. For instance, the [Office of Inclusive Excellence's Action Plan](#) includes guaranteeing that every student is supported in ways they can thrive, reach their academic potential, and experience wellness [4, 5, 15, 23, 34, 42, 54, 73]. Below is a link to a targeted review of the research literature that informed our inquiry on supporting a diverse student body.

- Literature review on supporting a diverse student body (Appendix 8C)

Research Question 1 (RQ1): Are learning experiences similar across UCI's diverse student body, and how do these experiences promote academic success, well-being, and the utility of their education?

VIII.B.2. Engagement and Participation in Research

A central facet of UCI's undergraduate and graduate educational learning experience is research. Research is fundamental to UCI's mission, strategic plan, and institutional goals, and threads across all levels of the university, with research grants and contracts surpassing \$592 million in 2022, the highest in the institution's history. The campus's commitment to research has cultivated a culture of sustainability and funded research

teams to address global challenges, including improving precision health through artificial intelligence, fueling the development of new knowledge and insights into the dynamics of infectious diseases and drug resistance, and ending family violence. UCI also provides support for and rewards interdisciplinary research and scholarship, including the creation of additional interdisciplinary and collaborative research spaces both physically and virtually because participating in research activities is invaluable to student learning experiences [37, 46, 77] and outcomes [32, 39, 46, 52, 53, 56, 66].

As a top-tier research university, UCI provides ample research opportunities and support for undergraduate and graduate students. Undergraduate students have research opportunities with faculty, as part of their majors, program/school research laboratories and centers, and via the Undergraduate Research Opportunities Program (UROP). There also are programs focused on research exposure (e.g., Research Discovery Program) for URM, low-income, and first-generation students. Graduate students also have a number of research opportunities as well as research support. The Graduate Division, along with various campus research centers and initiatives, communicates and assists with opportunities for research fellowships, grants, employment, and other research-focused funding. Given the central prominence of research at UCI, we are interested in learning more about our students' research experiences and how to improve them. Below are links to a list of UCI's student research opportunities and a targeted review of the research literature that informed our inquiry on student engagement with research.

- UCI list of student research opportunities (multiple sheets) (Appendix 8D)
- Literature review on engagement and participation in research (Appendix 8E)

Research Question 2 (RQ2): What is the role of student engagement with research on academic success, well-being, and the utility of our students' education?

VIII.B.3. Participation in Learning Communities⁵

Accomplishing UCI's institutional mission to enrich student learning and engagement for a diverse student body requires innovative strategies, such as establishing learning communities that create environments where students can more successfully integrate socially and academically into the university [1, 10-13, 29, 44, 45, 51, 65, 69, 73, 80]. Investing in existing and supporting new inclusive learning communities may be a particularly suitable direction for UCI given its recent growth, commitment to the success of all UCI students, and what we have learned about distance education as a result of the pandemic.

⁵ Learning communities can be organized along curricular lines, common career interests, avocational interests, residential living areas, and so on. These can be used to build a sense of group identity, cohesiveness, and uniqueness; to encourage continuity and the integration of diverse curricular and co-curricular experiences; and to counteract the isolation that students may feel [3, 64].

UCI currently offers a number of in-class and out-of-class formal learning communities for undergraduate (e.g., Honors Collegium, The Learning & Academic Resource Center or LARC) and graduate students (e.g., Competitive Edge, Diverse Educational Community and Doctoral Experience or DECADE). There also are informal, ad hoc learning communities (writing groups, lab teams, etc.) that are formed by students who feel collaboration may further help their academic work, social integration, and professional preparation. However, there is not yet a clear understanding of the relationship between these communities and student success at UCI. Anecdotal evidence, student testimonials, and unit reports all suggest that these communities provide needed student support and services. This self-study provides the opportunity to inquire at the institutional level about the benefits of learning communities for diverse student populations. As such, UCI sought to investigate several [different types of learning communities](#) (Appendix 8F), within and outside of the classroom, at the undergraduate and graduate levels, to understand what characteristics make up a successful and enriching learning community and how the communities promote learning across the campus. Below is a targeted review of the research literature that informed this inquiry into students' participation in learning communities.

- Literature review on participation in learning communities (Appendix 8G)

Research Question 3 (RQ3): What are the roles of UCI's learning communities on academic success, well-being, and the utility of our students' education?


VIII.C. Study Design

The three research questions were investigated using different data and study designs for undergraduate and graduate students. This self-study used an empirical research design to ensure a holistic, accurate, and reliable understanding of the effects of UCI's learning experiences, research, and learning communities. Positioning the institution through an objective research design enabled authentic and candid findings that better inform the effort to continuously improve how UCI supports its students.

Undergraduate student success research design.

The undergraduate student study involved leveraging existing administrative data (2016-2021) from the UCI Registrar, [UCI-MUST](#) (initially funded by the Mellon Foundation),⁶ the University of California Undergraduate Experience Survey (UCUES), and alumni surveys. Learning experiences (RQ1) were measured by examining college preparation before starting at UCI, student demographics, student course characteristics (e.g., percent STEM courses), and community experiences (e.g., on-campus student housing). Research participation (RQ2) was measured by analyzing the number of research course units in which students were enrolled and UROP

⁶ An internal review of [UCI-MUST](#) Data (Appendix 8H) confirmed that students participating in this program mirrors the overall undergraduate student population.



participation. Learning community involvement (RQ3) was measured by assessing student participation in on-campus housing learning communities and UCUES data on participation in learning communities.

Regression analyses and latent change models were used to examine whether learning experiences, participation in research, and participation in learning communities predicted changes in freshman and transfer student academic success (i.e., GPA change, retention, percentage of units passed in their first year), well-being (i.e., stress levels), post-graduate outcomes (i.e., student enrollment in graduate programs, career trajectories, and salaries), and alumni reports on the usage of skills learned during their undergraduate education (see Table 1).⁷ The focus on outcomes for academic success during students' first year is based on three factors: (1) existing research [38, 41, 59] on the importance of first-year outcome data, (2) an internal analysis of GPA trajectories (Appendix 8I) suggesting the importance of UCI's students' first year GPA predicting students' subsequent years' GPAs (within normative time to graduation), and (3) existing complementary data collected through the UCI-MUST project. Further analyses determined whether the strength of this association varied by student demographic data. Additionally, latent change models were used to assess trajectories of stress, disaggregated by student demographics.

- Undergraduate student variables (Appendix 8J)
- Supplemental information on undergraduate student study design (Appendix 8K)

Graduate student success research design.

The graduate student study utilized a survey for all three RQs and focus groups for RQ3. The 2022 Graduate Student Success Survey was created for the self-study and replicated items from existing graduate student surveys: the Graduate Exit Survey, the University of California Graduate Student Experience Survey (UCGSES), the 2021-2022 Higher Education Data Sharing Consortium (HEDS) Advanced Degree Survey, and the 2016 Graduate Student Wellness Survey. This strategy enabled comparative analyses between data from this study and past survey data. For RQ3, nine focus groups were conducted to gain a more in-depth understanding of the role of learning communities on student outcomes. All graduate students enrolled during spring 2022 were invited to participate in the survey. Of the 6,609 enrolled graduate students, 1,821 (27.6%) students completed the survey. Thirty-one students representing all four graduate program types were included in the focus groups, and at least one student from each school participated.

- Survey response rates (Appendix 8L)

Regression analyses were used to assess how learning experiences (i.e., perceived support, general

⁷ Due to limitations with data availability (e.g., COVID-19) and cross-compatibility (i.e., different data systems), we were not able to carry out all predictor-outcome analysis combinations. Each RQ section below will specify the analyses conducted.

Table 1: Undergraduate Student Success Research Design

Research Questions	Data Source	Predictors	Outcome 1: Academic Success	Outcome 2: Well-Being	Outcome 3: Utility of Education
Learning Experiences (RQ 1)	2016-2021 administrative data UCI-MUST project UCUES survey Alumni survey	Student demographics Course characteristics	First year retention Percentage of units completed GPA change from fall to spring	Stress levels (four types)	Graduate program enrollment Alumni salary levels Alumni responses to utility of UCI education
Research Participation and Engagement (RQ 2)	2016-2021 administrative data UCUES survey Alumni survey	Student demographics Research course participation (198/199) UROP participation	First year retention Percentage of units completed GPA change from fall to spring	N/A	Graduate program enrollment Alumni salary levels Alumni responses to utility of UCI education
Learning Communities Participation (RQ 3)	2016-2021 administrative data UCUES survey Alumni survey	Student demographics Course characteristics Taken two or more linked courses	First year retention Percentage of units completed	Sense of self-value and belonging	N/A

satisfaction, and perceived obstacles to learning), research engagement, and learning community participation predicted academic success (i.e., GPA and degree progress), well-being (i.e., general well-being and depressive symptoms), and utility of education (i.e., professional development and post-graduation prospects) (see Table 2). Further analyses assessed student demographic differences (i.e., URM status, age, gender), and these results were further disaggregated by graduate program type (academic master's, professional master's, research doctorate, and professional doctorate). For the focus groups, thematic and content analyses were conducted. Open line-by-line coding was conducted using MAXQDA software to identify what makes learning communities successful, what serves as barriers to participating in learning communities, and how students plan to incorporate what they learned from these communities into their future careers. Additionally, code frequency analyses were used to assess the extent to which different types of students (i.e., URM, program type) discussed learning community experiences.

- Graduate student variables (Appendix 8M)
- Supplemental information on graduate student study design (Appendix 8N)

Table 2: Graduate Student Success Research Design

Research Questions	Data Source	Predictors	Outcome 1: Academic Success	Outcome 2: Well-Being	Outcome 3: Utility of Education
Learning Experiences (RQ 1)	2021-2022 administrative data Graduate Student Success survey	Support General satisfaction Obstacles	GPA On-time progress	General well-being Depressive symptoms	Professional development Post-graduate prospects
Research Participation and Engagement (RQ 2)	2021-2022 administrative data Graduate Student Success survey	Research engagement	GPA On-time progress	General well-being Depressive symptoms	Professional development Post-graduate prospects
Learning Communities Participation (RQ 3)	2021-2022 administrative data Graduate Student Success survey Graduate Student Focus Groups	Frequency reports of participation in learning communities	GPA On-time progress	General well-being Depressive symptoms	Professional development Post-graduate prospects

VIII.D. Analyses and Significant Findings

This section presents significant findings from descriptive data analysis and RQ analysis for both undergraduate and graduate students, and thematic analysis of graduate student focus groups. The two links below also provide additional analyses and summaries of student outcome and satisfaction: (1) trend and peer institution comparison (i.e., WSCUC Key Indicator Dashboard), and (2) pre- and peri-COVID-19 student outcome data comparison.

- Student Outcome Trend and Peer Institution Comparison Report (WSCUC's Key Indicator Dashboard) (Appendix 8O)
- COVID-19 Student Data Analysis Report (Appendix 8P)

VIII.D.1. Descriptive Data: Undergraduate Students

Below are brief summaries of noteworthy descriptive data from the undergraduate student study, disaggregated by freshman and transfer students as background for the studies of association with outcomes and also to

provide information about changes over time when available. These data were collected across the following categories: student demographics, course characteristics, research participation, well-being, learning community participation, and academic success (i.e., GPA change, percentage of units passed, and retention across the first year). For the undergraduate student success study, 36,480 freshman students' and 15,865 transfer students' data and survey data were analyzed for 2016-2021.⁸ Additional undergraduate student descriptive data information can be found in the following links:

- Additional undergraduate student descriptive data summary (Appendix 8Q)
- Undergraduate student descriptive data table (Appendix 8R)

Learning experiences.

Learning experiences were assessed using student and course characteristics. For student demographics, the following categories were most relevant to the scope of the study: gender, URM, first-generation, low-income, and the number of academic units with which they entered UCI.

- For freshman students (2016-2021), 53.8% were female, 28% were URM, 47.6% were first-generation, 32.3% were low-income, and entered with an average of 22.7 academic units.
- For transfer students (2016-2021), 49.2% were female, 26.8% were URM, 49% were first generation, and 27.6% were low-income, and entered with an average of 103.7 academic units.
- For course characteristics, the following categories were most relevant to the scope of the study: average percentage of URM in courses and average percentage of females in courses.
- For freshman students, on average, 28.4% of students in courses were URM and 53.1% were female.
- For transfer students, on average, 29.9% of students in courses were URM and 54.2% were female.

Research participation.

Research participation was analyzed using administrative data on the percentage of research units completed for 2016-2021 graduates and participation in research via UROP for 2019 graduates.

- On average, 8% of coursework was taken as research units for students who enrolled as freshman students and graduated during 2016-2021. The percentage of coursework was lower for first-generation (7.1%), low-income (7.3%), international (3.6%), and URM students (6.7%), but higher for female students (8.6%).
- On average, 9% of coursework was taken as research units for students who enrolled as transfer students and graduated during 2016-2021. The percentage of coursework was lower for international (3.6%), but higher for female students (10.1%), first-generation (9.5%), low-income (10.1%), and URM students (10.3%).

⁸ The 2016, 2018, 2020 UCUES survey data had 5,614 freshman and 2,198 transfer student participants.

- Overall UROP participation was 14.9% for students who enrolled as freshman students and graduated in 2019. The participation rate was lower for first-generation (12.6%), low-income (14.1%), international (10.8%), and URM (12.4%), but higher for female students (15.4%).
- Overall UROP participation was 13% for students who enrolled as transfer students and graduated in 2019. The participation rate was lower for female (11.1%), and international (7.1%), but higher for first-generation (14.6%), low-income (13.5%), and URM (14.9%) students.

Learning communities.

Of all the data collected on learning communities, the UCUES survey data and the data on on-campus housing were most relevant to the scope of the study. Students who lived on campus also had opportunities to participate in on-campus housing learning communities.

- Of those who responded to 2016, 2018, and 2020 UCUES surveys, overall an average of 36.7% of freshmen and 34.4% of transfer students reported that they participated in learning communities. The participation rates were lower for the 2020 survey for freshmen (32.4%) and transfer students (26.5%).⁹
- Among freshman students, 70% lived on campus, and among transfer students, 26% lived on campus.

Academic success.

For academic success, change in cumulative GPA from fall to spring, percentage of units passed, and retention after first year were analyzed.

- For all freshman students, the average GPA change was from 3.08 to 3.15, the average percentage of units passed was 91.4%, and the retention rate was 93.4%.
- For all transfer students, the average GPA change was from 3.15 to 3.22, the percentage of units passed was 91.5%, and the retention rate was 92.1%.

Well-Being.

For well-being, student responses to a 12-item survey assessing four categories of stress were analyzed: academic (course demands, procrastination, study-life balance); practical (finances, housing, transport); health (mental, physical); and anxiety symptoms (nervousness, restlessness). The survey was administered multiple times through the UCI-MUST surveys from March 2020 to January 2022.¹⁰

Utility of education.

For utility of education, the National Student Clearinghouse Student Tracker data on enrollment in graduate programs within two and four years of graduation, UC's alumni employment data, and UCI alumni survey data were analyzed.

⁹ The 2020 UCUES survey was administered during the COVID-19 pandemic (April - June, 2020).

¹⁰ The first data point in March 2020 was just prior to closing the campus due to the COVID-19 pandemic.

- During 2004-2019, an average of 29.2% of undergraduate students enrolled in graduate programs within two years of graduation. During 2010-2017, an average of 37.3% of undergraduate students enrolled in graduate education within four years of graduation.
- During 2011-2020, an average of 72% of undergraduate students were working in California two years after graduation. The average salaries were \$43K (two years after graduation), \$65K (five years after graduation), and \$92K (10 years after graduation).
- In the alumni surveys, the average rating reported for graduate school preparation was 2.77 (1-4 scale) and 57% stated that they use their skills gained as an undergraduate in their current job.

VIII.D.2. Descriptive Data: Graduate Students

Below are brief descriptive data summaries for the graduate student success study, as background for the studies of association with outcomes and also to provide information about changes over time when available. The data were collected across the following categories: student demographics, learning experiences, research engagement, learning community participation, academic success, well-being, and utility of education. Many of the items include average rating comparisons to past survey data. Additional graduate student descriptive data information can be found in the following links:

- Additional graduate student descriptive data summary and group comparisons (Appendix 8S)
- Graduate student descriptive data matrix (multiple sheets) (Appendix 8T)

Learning experiences.

Learning experiences were analyzed using three components: perceived support, general satisfaction, and perceived obstacles.

- Perceived support was measured with three items on a 1 (strongly disagree) to 7 (strongly agree) scale. For students across all program types (n=1,806), the response average was 5.45 (SD= 1.31) and 79.6% of responses were “somewhat agree” or higher. This average rating was higher than the average rating in 2016 (4.67).
- General satisfaction was measured with six items on a 1 (poor) to 5 (excellent) scale. For all students across program types (n=1,791), the response average was 3.64 (SD=.872) and 85.2% of responses were “good” or higher. There were no comparable data from previous surveys for general satisfaction.
- Perceived obstacles were measured with three items on a 1 (major obstacle) to 3 (not an obstacle) scale. For all students across program types (n=1,756), the response average was 2.39 (SD=.524) and 88.1% of responses were “minor obstacle” or lower. There were no comparable data from previous surveys for perceived obstacles.

Research.

Research engagement was measured with four items on a 1 (not at all) to 5 (very often) scale. For students across all program types (n=1,794), the response average was 3.71 (SD=.812) and 88.7% of responses were “often” or higher. This average rating was identical to the average ratings in 2021 (3.71).

Learning communities.

For students across all program types (n=1,804), 43.7% (n=789) of graduate students indicated that they participated in a learning community. Involvement in communities was assessed with two items: one yes/no item and one item assessing the frequency of learning community participation on a 1 (very little) to 4 (quite a bit) scale.

Academic success.

Academic success was analyzed using two components: GPA and timely degree progress.

- For all students across all graduate program types (n=1,716), the average GPA was 3.86 (SD=.211).
- For all students across all graduate program types (n=1,716), the timely degree progress (i.e., the number of years enrolled in the program and the student's current progress) was measured as a yes/no item. Results indicated that 83.4% of students were on track to normative time to completion.

Well-Being.

Well-being was analyzed using two components: general well-being and depressive symptoms.

- General well-being was measured with three items on a 1 (strongly disagree) to 7 (strongly agree) scale. For all students across all graduate program types (n=1,778), the response average was 5.56 (SD=1.19) and 81.7% of responses were “somewhat agree” or higher. This average rating was higher than the average rating in 2016 (5.23).
- Depressive symptoms were measured with seven items on a 1 (not at all) to 6 (every day) scale assessing frequency of experiencing a symptom. For all students across all graduate program types (n=1,735), the response average was 2.35 (SD=1.13) and 67.3% of responses were “one or two days last week” or lower. This average rating was slightly higher than the average rating for 2016 (2.2).

Utility of education.

Utility of education was analyzed using two components: professional development and post-graduation prospects.

- Professional development was measured with three items on a 1 (very little) to 4 (very much) scale. For all students across all graduate program types (n=1,806), the response average was 2.90 (SD=.809) and 66.8% of responses were “quite a bit” or higher. This average rating was identical to the average ratings in 2021 (2.93).

- Post-graduation prospects were measured with four items on a 1 (strongly disagree) to 7 (strongly agree) scale. For all students across all graduate program types (n=1,796), the response average was 5.12 (SD=1.35) and 71.4% of responses were “somewhat agree” or higher. This average rating was higher than the average ratings in 2021 (4.78).

VIII.D.3. Learning Experiences (RQ1): Findings for Undergraduate Students

For undergraduate students, learning experiences were analyzed by examining the impact of student demographics and background information and course characteristics on student success outcomes: academic success, well-being, and utility of education. Overall, different student learning experiences at UCI have varied impact on these outcomes. Regression analyses revealed that demographic differences and course characteristics were significant predictors of academic success. For well-being, no significant differences were found in students' stress levels before and during the COVID-19 pandemic, but analyses revealed higher levels of stress for female students than male students. Post-graduation data comparisons showed that student demographics were notable predictors of graduate program enrollment. There was an overall declining rate of graduate program enrollment (2008-2019), but greater declining rates for URM, first-generation, and low-income students. For post-graduation employment, an analysis of UCI alumni employment rates and salary levels revealed that UCI students' levels were similar to graduates of other UC campuses. Finally, a comparison of data across three alumni surveys (2011, 2016, 2020) indicated no significant differences in students' perception that their undergraduate experiences prepared them for graduate school or a career. Below are detailed reports on these findings, and the data analysis matrix for each outcome is linked under each outcome.

Academic success.

Academic success was measured by examining rates of overall retention (i.e., whether students were enrolled in the following academic year), the percentage of course units completed, and changes in cumulative GPAs from fall to spring. The findings showed that students' demographic characteristics were a significant predictor of the three academic success outcomes. Course characteristics also were a significant predictor of the percentage of units completed and changes in cumulative GPAs from fall to spring.

- Student demographics were a significant predictor of retention. Freshman and transfer students who had higher cumulative spring GPAs were more likely to stay for their second year. For freshman students, those who changed their majors also were more likely to stay for their second year.
- Student demographics and course characteristics were significant predictors of the percentage of units completed. Freshman and transfer URM students had a lower percentage of units completed. However, freshman URM students had a higher percentage of units completed when on average they were enrolled in courses with a higher percentage of URM students. Similarly, freshman female students also had a higher percentage of units completed when on average they were enrolled in a class with a higher percentage of female students.

- Student demographics and course characteristics were significant predictors of changes in cumulative GPAs across the first year. Freshman and transfer URM students had lower cumulative GPAs than non-URM students. Similar to units completed, female freshman and transfer students had higher cumulative GPAs when on average they were enrolled in courses with a higher percentage of female students. Freshman URM students also had higher cumulative GPAs when on average they were enrolled in courses with a higher percentage of URM students.
- RQ1 Undergraduate student data analysis matrix (for academic success) (Appendix 8U)

Well-Being.

Latent change models were used to assess changes in four categories of stress (academic, practical, health, and anxiety symptoms) across several academic quarters before and during the COVID-19 pandemic (March 2020 - January 2022) to assess learning experiences among students under the constraints of the pandemic. The results were disaggregated to see if stress levels differed by student demographics. Overall, despite some fluctuations, no significant changes in stress levels were found between the two periods across all measures. Female students reported slightly higher stress levels, but no other significant differences were found by different student demographics.

- Academic stress levels fluctuated just before and during the pandemic, but overall declined over the period measured. Female students reported feeling stressed about academic work during the last seven-day period more often than male students.
- No meaningful differences were found across student demographic groups on feeling stress about finances, housing, and transportation.
- Health-related stress also remained relatively stable during the period measured. Female students reported health-related stress issues more often during the last seven-day period than males.
- Anxiety symptoms (i.e., nervousness and restlessness) also remained relatively stable during the measured period. With the onset of remote instruction, female students reported experiencing these symptoms more often during the last seven-day period than males.
- RQ1 Undergraduate student data analysis matrix (for well-being) (Appendix 8V)

Utility of education.

Utility of education was measured by: (1) graduate program enrollment trends within two years of graduation (2008-2019), (2) comparing UCI alumni salaries to other UC campuses, and (3) assessing relevant undergraduate experiences and skills for career and graduate school preparation. When possible, the data were disaggregated to determine meaningful differences across student demographics. Overall, graduate program enrollment declined for all students, but the rate of decline was greater for URM, first-generation, and low-income students. Specifically, graduate program enrollment declined by 3.7% from 2008 to 2019. The gradual downward trend seems to reflect the national and UC campus decline in graduate program

enrollment. However, the rate of decline in enrollments varied by student demographics. Female students' enrollment, while higher overall, declined by 3.8%; URM students' enrollment declined by 9%; first-generation students' enrollment declined by 8.3%; and low-income students' enrollment declined by 11.7%. With regard to post-graduate salaries, [UCI alumni salaries](#) and employment rates were similar to those reported by other UC campuses. Transfer student alumni average salaries were slightly lower compared to overall alumni average salaries across two- (-\$1K), five- (-\$5K), and 10-years (-\$7K) post-graduation. Finally, UCI alumni overall reported no significant changes in the utility of their undergraduate experience preparing them for graduate school and career from 2011 to 2020. UCI's URM alumni, on average, reported greater utility of their undergraduate experience preparing them for graduate school (2.89 v. 2.71 for non-URM) but low-income students, on average, reported lower items utility (2.65 v. 2.82 for non-low-income) on a 1 (very little) to 4 (very much) scale.

- RQ1 Undergraduate student data analysis matrix (for utility of education) (Appendix 8W)

VIII.D.4. Learning Experiences (RQ1): Findings for Graduate Students

For graduate students, learning experiences consisted of three components: perceived support, general satisfaction, and perceived obstacles. Of these, perceived support was a significant predictor of all three academic success outcomes. General satisfaction with educational experiences also was a significant predictor of well-being and utility of education. There were no significant relationships between perceived obstacles and the three academic success outcomes. Some student demographic characteristics and graduate program types had stronger associations with these outcomes. Below are links to the detailed findings and the data analysis matrix.

- RQ1 Graduate student complete analysis of significant findings (Appendix 8X)
- RQ1 Graduate student data analysis matrix (Appendix 8Y)

Learning experiences: Perceived support.

Perceived support was a significant predictor of graduate students' academic success, well-being, and utility of education.

- For academic success, perceived support was a significant predictor of students' GPAs and degree progress. Students who perceived appropriate educational, financial, and career support had higher GPAs and were more likely to make timely progress toward their degree.
- For well-being, perceived support was a significant predictor of both general well-being and frequency of depressive symptoms. Students who perceived appropriate support felt more valued and perceived less frequent depressive symptoms.

- For the utility of education, perceived support was a significant predictor of both professional development and post-graduation prospects. Students who perceived appropriate support reported being more satisfied with their professional development and more optimistic about their post-graduation prospects.

Learning experiences: General satisfaction.

Overall, general satisfaction with educational experiences was a significant predictor of students' well-being and utility of education.

- General satisfaction was a significant predictor of general well-being and frequency of depressive symptoms. Students who reported being more generally satisfied felt more valued and reported fewer depressive symptoms.
- For the utility of education, general satisfaction was a significant predictor of professional development and post-graduation prospects. Students who reported being more generally satisfied reported being more satisfied with their professional development and more optimistic about their post-graduation prospects.

VIII.D.5. Research Participation and Engagement (RQ2): Findings for Undergraduate Students

For undergraduate students, the effects of participation in research on the percentages of students enrolled in a graduate program within two years after earning their bachelor's degree were analyzed (i.e., utility of education). Concerns about multicollinearity between research participation and cumulative GPA change limited the analysis of research participation on academic success (see discussion re: limitations below). Overall, participation in research was a significant predictor of graduate program enrollment. Below are detailed findings and a link to additional data analyses.

- For graduates who started UCI as freshmen, on average, 11.6% of coursework was taken as research units for students who enrolled in graduate programs versus 6.7% for those who did not enroll in graduate programs within two years of graduation. Similar differences can be seen for female (11.6% v. 7.3%), first-generation (10.8% v. 5.9%), low-income (11.4% v. 6.1%), and URM students (9.7% v. 5.9%).
- For graduates who started UCI as transfer students, on average, 12.9% of coursework was taken as research units for those who enrolled in graduate programs versus 7.7% for those who did not enroll in graduate programs within two years of graduation. Similar differences can be seen for female (13.5% v. 8.8%), first-generation (13.8% v. 8.1%), low-income (14.6% v. 8.6%), and URM students (13.6% v. 9.2%).
- For 2019 graduates who started UCI as freshmen, participating in research via UROP also increased the likelihood of enrolling in graduate programs. 39.6% of students who participated in research via UROP enrolled in graduate programs within two years of graduation versus 27% for students who did not participate.
- For 2019 graduates who started UCI as transfer students, participation in research was associated with an increased likelihood of enrolling in graduate programs, although the difference was smaller than for freshman (29.6% vs 24%). Larger differences were noted for some demographics groups, such as female (36.3% v. 29%), first-generation (30.3% v. 23.1%), and international students (35% v. 19.9%).
- RQ2 Undergraduate student data analysis (Appendix 8Z)

VIII.D.6. Research Participation and Engagement (RQ2): Findings for Graduate Students

Research engagement (measured with four items assessing how often students engaged with research theory, methods, and activities) was a significant predictor of well-being and the utility of education.

- For academic success, research engagement was a significant predictor of graduate student GPAs, but not for degree progress. Students who responded as being more engaged with research had higher GPAs.
- For well-being, research engagement was a significant predictor of general well-being but not the frequency of depressive symptoms. Students who were more engaged with research felt more valued by their peers, faculty, and staff.
- For the utility of education, research engagement was a significant predictor of professional development and post-graduation prospects. Students who were more engaged with research reported being more satisfied with their professional development and more optimistic about their post-graduation prospects.

Some student demographic characteristics and graduate program types had stronger associations with these outcomes. Below are links to the detailed analysis of these findings and the data analysis matrix.

- [RQ2 Graduate student complete analysis of significant findings \(Appendix 8AA\)](#)
- [RQ2 Graduate data analysis matrix \(Appendix 8AB\)](#)

VIII.D.7. Learning Communities Participation (RQ3): Findings for Undergraduate Students

Limited data on this theme affected the overall analysis of undergraduate students' participation in learning communities as well as the frequency of participation in community-type activities (e.g., study groups).

- For academic success, freshman students who participated in learning communities had higher retention rates.

Data from the alumni and UCUES surveys also show positive trends and effects of participation in learning communities. Of the students who completed the 2011 alumni survey, 31% indicated that they participated in learning communities. In the 2020 alumni survey, 43% indicated that they participated in learning communities. In the UCUES surveys, participating in learning communities was significantly associated with peer learning and sense of belonging.¹¹ Both freshman and transfer students who were in cohorts for multiple courses were working together more frequently – studying together, working on projects, and helping one another with academic work outside of class. The frequency differences were notable across all student demographics, and these differences were greater for most demographic categories in the 2020 survey data (i.e., during the COVID-19 pandemic). For sense of belonging, freshman and transfer students who were in cohorts for multiple courses reported stronger feelings of being valued and belonging at UCI. The students who were in

¹¹ Two-items that are similar to Graduate Student Success Survey items on well-being (i.e., valued member and sense of belonging at UCI).

cohorts also reported the highest ratings for sense of belonging in the 2020 survey (i.e., during the COVID-19 pandemic). Below is a link to the detailed analysis of these findings.

- RQ3 Undergraduate student data analysis (Appendix 8AC)

VIII.D.8. Learning Communities Participation (RQ3): Findings for Graduate Students

For graduate students who participated in learning communities, frequency of participation was a significant predictor of well-being and the utility of education.

- For well-being, frequency of learning community participation was a significant predictor of general well-being but not the frequency of depressive symptoms. Students who participated in learning communities felt more valued by their peers, faculty, and staff.
- For the utility of education, frequency of learning community participation was a significant predictor of professional development and post-graduation prospects. Students who participated in learning communities reported being more satisfied with their professional development and more optimistic about their post-graduation prospects.
- Among academic doctoral students who participated in formal learning communities (i.e., DECADE or Competitive Edge), URM, female, and second-year academic doctoral students reported being more satisfied with their professional development. For URM and fourth-year academic doctoral students, those who participated in formal learning communities also reported feeling more valued.
- Some student demographic characteristics and graduate program types had stronger associations with these outcomes. Below are links to the detailed findings and the data analysis matrix.
- RQ3 Graduate student complete analysis of significant findings (Appendix 8AD)
- RQ3 Graduate student survey data analysis matrix (Appendix 8AE)

Focus group findings.

Focus group findings indicated that graduate students considered a broad range of groups as learning communities. These communities included informal, peer-created reading and writing groups, fieldwork groups, professional groups, peer cohorts, research labs, and formal school or department-led groups (e.g., DECADE, Associated Graduate Students, and Competitive Edge). Second, the content analysis was used to examine three specific questions: 1) How do learning communities provide support systems that are vital for the success of graduate students? 2) What makes a learning community successful? 3) What are the barriers and constraints to participating in learning communities? These questions specifically related to the two outcomes: well-being and the utility of education.

The focus groups revealed that engaging with supportive peers within learning communities helped students foster positive feelings imperative for their well-being, including feeling empowered and encouraged, combating imposter syndrome and feelings of isolation, and reducing stress. Moreover, regardless of program type,

most students discussed that being part of learning communities benefited their well-being more than their academic success and the utility of their education. On the other hand, some students added they would not join a learning community if they thought doing so would interfere with their well-being. Students explained this was because they needed to prioritize their well-being before they could make timely progress academically or professionally. This was true for all students, regardless of their program type. For example, two focus group participants stated:

“I think for me personally, I think ranking them, I would have to rank mental well-being first and then from there, academic progress, and then professional development. At least that's how I see it work, just because I'm only capable of making the academic progress if I feel supported or stable, and so having unstable factors makes that academic progress almost unachievable...” (Third-year academic doctoral student, female, URM, focus group 6).

“...If I did not have a learning community where my mental well-being needs were being met, my professional development would not even be addressed.” (First-year academic master's student, female, non-URM, focus group 3).

For utility of education, students discussed planning to take their experiences from their learning communities into their future careers, such as creating supportive environments that foster collaboration and inclusivity, offer structure, and develop strong leadership skills. Non-URM students also discussed the importance of fostering inclusivity. Male students indicated that having strong leadership was vital to the success of a learning community. Doctoral students focused on the importance of vulnerability, inclusion, and leadership compared to the other degree types. The following two quotes serve as examples of these perspectives:

“I think one of the major things in learning communities that I would want to build in the future, especially being someone who has navigated higher education... I started at a community college, I was older, I know I'm from a non-traditional path. I think a major thing is building and structure where it's very clear what the end goals of the learning community are.” (Third-year academic doctoral student, female, URM, focus group 6).

“... I think setting the precedent of everyone's voice is equal, just because, you know, you have that one person who will initiate, or the 'leader,' or the head of the group, whatever. It's important to let them know, even though I'm taking initiative, everyone has an equal voice, equal opportunity, you know? Things like that. And what I personally do sometimes in my group is, I make sure that everyone is on board with an idea...” (First-year professional master's student, female, non-URM, focus group 4).

VIII.E. Discussion of Findings

Overall, the findings suggest that UCI students are supported to succeed. Student performance, retention, graduation, and satisfaction data all indicate that undergraduate and graduate students are doing well and are satisfied with their educational experiences at UCI. UCI's student outcome data also are on par with both UC and WSCUC peer institutions. Additionally, the lack of significant differences across these data as a result of the COVID-19 pandemic demonstrates the resilience of UCI's students and the campus's commitment to upholding its mission. The self-study also highlighted potential areas for improvement. Student support, both in and out of class, is critical for improving the learning experiences of our diverse student population. Support comes in many different forms, and these differences need to be acknowledged to increase the success of all our students. In addition, while UCI provides ample research and learning community opportunities for both undergraduate and graduate students, the campus can improve the ways in which it tracks the different ways students engage and participate in these educational experiences. Conducting further inquiries into these opportunities may improve understanding of the effects they have on UCI students' academic success, well-being, and utility of education. Below are initial discussions about the findings, and continued discussions on next steps are included in Component 9.

VIII.E.1. Limitations

As indicated in the sections above, there were two limitations to this study: (1) student data collection, and (2) integration and institutional-level inquiry on student participation in research and learning communities.

Student data.

The plan to examine the role of learning experiences, research, and learning communities entailed a considerable amount of data collection and analysis from administrative, survey, and student learning experience research projects (e.g., UCI-MUST). When drafting the TPR proposal, initial data sources showed promise, but challenges with data collection and integration surfaced during the actual study. Data collection issues stemmed from data inconsistencies, incompatibilities, and differences in data collection methodologies. Some of these issues were due to the rapid transitions (e.g., the shift to online services), program closures, and prolonged effects of the COVID-19 pandemic. Other issues were due to data system incompatibilities. For example, student participation in learning communities was not systematically tracked across all communities because some were voluntary, informal, temporary, and confidential. As such, despite the initial information that showed substantial involvement in learning communities, data incompatibility limited the analyses that ultimately could be conducted.

Research and learning communities inquiries.


As the institutional-level inquiry into undergraduate and graduate students' participation in research and learning communities progressed, the research teams came to realize the wide spectrum of research experiences and learning communities available to our students. The teams found that participation in research and learning communities at UCI were broad categories that subsumed a variety of different experiences. In addition, the nuances and details within each category made it difficult to carry out one-time, comprehensive, institutional-level studies of students' experiences. This led to a tension between conducting a comprehensive (but broad) or an exclusive (but focused) study. After much deliberation, the research teams chose the former with the understanding that the initial findings will result in additional questions that can be explored with supplemental inquiries in the future.

VIII.E.2. Learning Experiences

The undergraduate student study reinforces other existing data about gaps between URM, first-generation, and low-income student achievement and that of their peers. The study also suggested several factors that may increase academic success, such as taking more college-prep courses during high school, doing well in one's first quarter and first year, and identifying the right major earlier. For female and URM students, enrolling in courses that have more female and URM students, respectively, also may improve their academic performance. Female students also reported higher levels of health-related stress. Finally, in terms of utility of education for graduate program enrollment, the findings indicated that first-generation, URM, and low-income students were less likely to enroll in graduate programs within a few years of graduating from UCI compared to non-URM and non-low-income students.

These findings point to the need to improve early academic advising, intervention, and support strategies. For instance, early and more tailored academic advising may better provide students with a nuanced understanding of how different academic majors may support their academic journey and professional preparation. Second, having new students be a part of formal learning communities could serve a role in academic support (e.g., learning communities can help with coursework and developing a peer network). Third, some majors that traditionally tend to enroll fewer URM and female students could adjust their recruiting strategies to attract a more diverse population to support all student success. Finally, our academic and co-curricular programs also could work with high schools and community colleges to increase access to college-level courses, academic skill-building programming, and other partnerships to mitigate the initial challenges of UCI's academic rigor and expectations.

The graduate student study found that when students across all types of graduate programs perceived that they received academic, career, and financial support, they reported higher academic success, well-being, and




utility of education. Some of these findings overlap with the findings from the undergraduate study, namely that UCI can improve the ways in which the campus advises, mentors, and supports our students. As such, some of the suggestions made above also may be relevant for supporting graduate students' learning experiences (e.g., advising, learning communities). However, graduate student support also may have some differences, given the likelihood of different educational experiences (i.e., research or professional) and student needs (e.g., family, career, etc.). For instance, graduate students may need more space and resources on campus as they simultaneously serve several roles (e.g., research, teaching, and family obligations). A follow-up inquiry to inventory graduate student space and resources may provide additional insight into understanding gaps in needed student supports, if any. Professional development and career counseling also may be particularly relevant, given the purpose of graduate education. Innovative strategies for career possibilities, such as leveraging students' academic expertise and specialized skills to career options beyond traditional academic trajectories, may be needed in today's shrinking academic job market. Finally, for those students with families and who provide dependent care, more educational and financial flexibility could help them manage their responsibilities.

VIII.E.3. Research Engagement and Participation

The undergraduate student study found that, despite the overall downward trend of fewer undergraduate students enrolling in graduate programs over the past decade, research participation increased the likelihood of enrolling in graduate programs. The research teams also found research participation (i.e., enrollment in independent research courses) significantly predicted students' cumulative GPA change but because the two items are likely to be highly correlated, and the results were not discussed above. However, another institution's self-study on undergraduate student research experiences found that student research participation increases their academic performance, and the quality of the research preparation is a significant factor in determining this relationship.¹² These findings suggest the need to further examine the quality of the undergraduate research courses and refine the academic success measure. These follow-up investigations may provide additional insights for establishing and improving the quality and support of student research experiences.

The graduate student study found a significant relationship between research engagement and higher GPAs, general well-being, and the utility of education. These relationships seem logical, given the likelihood that graduate education focuses more specifically on analyzing, questioning, and integrating existing knowledge as well as discovering and contributing new knowledge. However, an unexpected finding was the significant association between research participation and general well-being, such that graduate students who engaged

¹² Citation withheld due to confidentiality request.




in research felt more valued by faculty and peers. This may have to do with increased efficacy and being recognized as a contributing member of the academic community. The predictive relationship with the utility of education (i.e., professional development and post-graduation prospects) also made sense, as graduate students' academic experiences are highly related to their future careers. These findings further support the need to improve the variety of services (e.g., financial, career advising) for our graduate students mentioned in the previous section.

VIII.E.4. Learning Communities

Overall, the issues with data limitations and the suspension of some of the learning communities due to the pandemic constrained the undergraduate study. The study, despite limited data, found that students' perceived participation in learning communities contributed to their college success. However, how learning communities are impacting student success is less clear as limited data show mixed results about the significance of learning communities on academic success. The findings indicate that follow-up investigations need to refine the definition of learning communities, including identifying different types and characteristics. One project that may help with future inquiries is to develop an institutional inventory of learning communities that would serve as a resource for students, enable participant data collection, and improve institutional support. In addition, the effect of participating in learning communities may have less direct effect on traditional student success items and more direct effect on engagement, belonging, and well-being as evidenced by the results of the graduate study.

The graduate student study on learning communities revealed a significant relationship between frequency of participation and well-being and utility of education. Further, a focused analysis of formal learning communities found significant associations with professional development and well-being for URM students. The focus group findings also indicate the beneficial role that learning communities have on students' well-being and career preparation. In these findings, the primary benefit of learning communities was feeling mentally and emotionally supported. While this relationship was expected, the prevalence of the benefit was not expected as very few learning communities are created with the explicit purpose of providing mental and emotional support. One possible explanation is that the need for social connections may have been particularly acute during the COVID-19 pandemic and the move to remote instruction. Nevertheless, the socio-emotional benefit of learning communities should be further investigated and explicitly understood, including their relationship to other student outcomes. Additionally, for schools and departments that are considering new distance education programs, developing in-class learning communities as part of the program could develop and sustain students' engagement and sense of belonging. Another unexpected finding that emerged from the data analysis was



which components make the learning community successful. This led to the realization that not all learning communities (even similar types of learning communities) provide the same benefits to students. Participating in some learning communities may be mentally and emotionally draining, time-wasting, and unfulfilling, particularly informal ones created by students in an ad hoc manner. Follow-up confirmatory research can validate the significance of the components inventoried in the focus group, such as having clear and defined goals, strong leadership, and a safe space for sharing new ideas. UCI's Division of Undergraduate Education, Graduate Division, and Student Affairs also can support the creation and success of new learning communities for the students by promoting the development of these components across learning communities.



Component 9

Conclusion

CONCLUSION

IX.A. Overview

We appreciate the opportunity to conduct a focused thematic self-study to better understand and support the learning experiences of our diverse undergraduate and graduate students. This conclusion focuses on how we can improve supporting the success of our increasingly diverse student body based on findings from this self-study and the supplemental findings from related internal analyses on our student outcome gaps, graduate education, research support, strategic plan review, and campus budget. The report ends with SCOR/EX's recommendations for institutional improvement priorities.

IX.B. Supporting Students

One of UCI's points of pride is to lead the nation in support of first-generation, URM, and low-income students. Our institutional commitment to "First in Class: Elevating the Student Experience to Prepare Future Leaders" ([Strategic Plan, Pillar 2](#)) has significantly improved the ways in which we support our students and received several distinctions (see Component 1). As such, we are pleased to find that our students are committed to their education. UCI's retention and graduation rates continue to indicate excellent achievement. Students also report that they are very engaged and satisfied with their learning experiences and support services despite unexpected changes due to the COVID-19 pandemic. We are proud of our students' resilience and faculty and staff's efforts to support students' needs during these challenging times. It is also possible that, during the pandemic, faculty offered learning accommodations and interventions that lowered expectations for achievement and academic rigor. As such, faculty are carefully monitoring students' learning expectations and performance levels following their return to onsite instruction this fall. Nevertheless, the pandemic and other recent national and global events have emphasized the importance of coordinating whole student support: educational experiences, mental health, and social well-being (see co-locating student support services, below).

IX.B.1. Undergraduate Students

Overall, we are pleased to learn of our undergraduate students' high levels of satisfaction and engagement with their educational experiences at UCI. At the same time, we also learned of particular areas for improvement as we endeavor to effectively support our student body. The self-study reinforced lower academic performance for first-generation and URM students. We believe these gaps may be narrowed with early intervention, advising, and support, including enrollment strategies, early exposure to research and learning community opportunities, and tailored advising (see more below). In addition, further investigation and interventions of the quality of research experiences may improve their impact on student success outcomes. Finally, a more detailed inventory and typology of learning communities and an improved data collection system on student

participation in learning communities (see discussion of student data warehouse below) may also improve our understanding of the impact on student success outcomes.

A concurrent investigation on undergraduate student outcome gaps by UCI's Academic Planning Group (APG)¹³ also found that the most significant gaps (i.e., GPA) occurred during the entry phase into campus. That is, the gap at the entry phase was more acute for URM, low-income, and first-generation students. For instance, students who may have been successful at high schools and community colleges may experience initial challenges and distress due to the increased rigor of their programs and other challenges of a large institution. However, as students progress, they acclimate to the rigor and develop new learning skills and coping strategies to thrive. As such, the outcome gaps, while still notable, are not as substantial by the time students graduate. According to the APG's findings, the opportunities to address the challenges may be two-fold: (1) increase earlier academic advising, and (2) make it easier for students to self-locate resources and services when they first enter the campus.

These findings also confirm and highlight recent campus discussions that entry intervention and support services should be a campus priority. UCI is currently working on several projects to address this. One project is co-locating student support services, including the Counseling Center, Disability Services Center, DTEI, Student Success Initiatives, and Division of Career Pathways, to promote student success and well-being. A consolidated, centralized resource hub will improve student awareness and access to programs; support a holistic approach to student well-being and success; and advance UC and State goals to expand student access, improve student success, and advance equity. Additional improvement proposals currently being reviewed include:

- Expansion of services (e.g., [EASE](#), [Edge](#), [UMOJA](#), [UROP](#), etc.) to reach students earlier with advising, support, and research exposure during their first year (including transfer students).
- Improve the integration and use of CODAS services that proactively share multiple measures of student success with academic schools and departments (i.e., course outcome gaps, students' sense of belonging in the major, amount of active learning experienced by students in courses, and academic engagement) (see discussion below on student data warehouse).

Below are other ideas and proposals also being considered by the Academic Senate and provost:

- Develop an "Anteater Scholars Program" (i.e., learning communities, also linked to our thematic self-study) to mitigate first-year challenges for both traditional and transfer students. Students in these communities would have similar interests and learn from one another under the guidance and support of a trained peer mentor who can provide information about campus resources and success strategies.

¹³ The Academic Planning Group (APG) is a high-level joint Senate-Administrative body advising the provost on academic planning and other campus priorities.

- Form a Student Success Leadership Team that conducts continuous inquiries of trends in and barriers to student success and appropriately disseminates data to various academic units.
- Encourage the development of more accessible curriculum, innovative pedagogy, and personalized advising to better prepare our students in light of recent national and global events. One proposed strategy is to diversify pedagogical options for students who seek a balance between traditional in-person instruction and high-quality online educational opportunities, and recommend flexibility to provide excellent distance learning options throughout the academic year.

IX.B.2. Graduate Students

Overall, we are also pleased to learn of our graduate students' high level of satisfaction and engagement with their educational experiences at UCI. While recent data indicate slightly lower levels of general satisfaction with learning experiences when compared to pre-pandemic assessments, we expected to find significantly lower ratings given the learning modality transitions. As discussed, we attribute these positive responses to the resiliency of our students and the thoughtful initiatives and policies our campus developed to ensure student success during the pandemic.

We also learned through the thematic self-study that for all types of graduate education (academic or professional), mentorship and advising, space and resources, and career support played a significant role in academic success, well-being, and professional preparation. For those in more research-oriented programs, participation in research also increased perceived self-value and supported career preparation. Appropriately structured learning communities also appeared to play a supplemental role in providing informational, career, and socio-emotional support, particularly for URM and female students. Finally, our disaggregated findings suggest the need for follow-up inquiry on the needs of older students and students who have been in a program for four or more years.

These findings also overlap with the APG's recommendation based on their two-year inquiry—Reimagining Graduate Education—into the quality of UCI's academic master's and research doctoral degree programs. The program-level inquiry into improving the overall quality of these programs echoed the TPR self-study's findings and identified the following areas for improvement: student funding, career placement, mentoring and advising, and training graduate students to serve as instructors. The APG noted that more developed strategic funding models would increase the ability to recruit the most promising applicants, decrease the time to degree, and improve job prospects. They also noted that job/career placement is a critical factor in improving the quality of programs, and both graduate programs and the institution need to consistently track the job market


and their alumni. Relatedly, improving teaching training would have a two-fold benefit of providing additional career training for graduate students entering the academic job market and improving undergraduate learning experiences. Finally, APG recommended providing additional data to programs to better inform deans and department chairs of the progress of their students, guide career preparation, and monitor the infrastructure quality of the program.

Some of the improvement areas are already being addressed through recent projects and programs. Foremost is the recent graduate funding guarantee (Appendix 9A), which would position UCI as the first UC campus to develop a new framework for PhD and MFA funding that includes a commitment of funding through normative time to degree up to six years. Included in this funding model is a move toward universal summer funding that ensures year-round financial support. Given the scope of this new funding initiative, the plan will be implemented in phases over a series of incoming cohorts, and the campus will engage with corporate, donor, research, and government entities toward increasing revenue.

A second major project recently completed is the [Verano 8 Housing Project](#), which adds an additional 1,055 beds and a community center to the Graduate and Family Housing inventory. The project was envisioned with the goals of affordability, community, inclusive design, sustainability, and privacy. With these additional beds, student housing will be able to extend the graduate housing guarantee to normative time to degree for PhD, Law, and MFA students. We know that housing availability and affordability are critical to recruiting and supporting graduate students, especially in Orange County. These housing options enable UCI to offer the most comprehensive graduate housing guarantee in the UC system.

As for improving career support, UCI's Susan and Henry Samueli College of Health Sciences (COHS) is partnering with UCI Health to develop an innovative strategy to provide holistic, team-based training—interprofessional education (IPE)—for graduate and professional trainees, which reflects renewed thinking about holistic, end-to-end, team-based precision patient care. In doing so, UCI's COHS will create the nation's first integrative health education tracks for medical students, practicing nurses, residents, and subspecialty fellows.

Also, graduate success programs remain core considerations for URM thriving, with a substantial investment of time, staff effort, and fellowships to encourage the success of our underrepresented students. The [new California Community College Internship Program](#), [lab management certificate program](#), [summer inclusive excellence grants](#), and [industry mentorship program](#), alongside our existing [DECADE](#) and [UC LEADS](#) programs, demonstrate our commitment to diversity and inclusion and our ability to learn from our programs and move forward.



Along with these recent developments, UCI continues to review innovative strategies to further improve graduate student success. One of the central discussions currently taking place is the need to balance the goal to grow the number of our graduate students, increase financial and advising support for continuing students of diverse backgrounds, and the additional investments needed to support these needs. The growth in PhD students necessary to align with the Association of American University's (AAU) public research institutions is expensive and requires additional investment. In addition to providing the funding necessary to support our graduate students year-round, diversifying the professoriate requires additional support in career pathways for our underrepresented students. Expansion of programs like the [UC President's Postdoctoral Fellows program](#), as well as the [UC-HSI Doctoral Diversity Initiative](#) and the California Community College Internship Program, are key investments made by the University of California Office of the President (UCOP) in recent years that we can further leverage to expand pathways into the faculty for our students. Several options are being reviewed and discussed, such as working with UCOP on streamlining program approval processes and increasing financial support; increasing revenue-generating efforts (as mentioned above); exploring the development of high-quality graduate and professional programs that address UC 2030 goals and community needs, and increasing program efficiencies, such as COHS' IPE strategy.

IX.B.3. Strengthen Program Learning Outcomes Assessment

A related area for student success, is to improve the culture of assessment across the campus. UCI's DTEI and CAAR have made significant headway in working with Academic Senate committees and academic programs to develop the undergraduate program, core competencies, and GE learning outcomes assessment process (as indicated in responses to the Component 2 review). Our analysis, however, did identify the need to improve the graduate program learning outcomes assessment process, while noting the differences between undergraduate and graduate programs as well as the different types of graduate degree programs (e.g., professional and academic). As such, the following work has been initiated or is underway to make improvements in this area:

- In fall 2021, the OAPIR and CAAR explored other UC campuses' graduate program learning outcome structures. Of the reviewed structures, [UC Merced's assessment structure](#) stood out as the one to emulate.
- In winter 2022, the DAP and CAAR took an inventory of all graduate programs' existing assessment practices and other student performance review data. Using those data, CAAR has developed a phase one assessment pilot program and invited five graduate programs to participate in developing a sustainable assessment process during fall 2022. CAAR has hired a post-doctoral researcher to support this work.
- In summer 2022, CAAR was relocated from OVPTL to OAPIR to better oversee and support both the graduate and undergraduate program learning outcomes assessment structure.

- UCI's efforts to make improvements will be further strengthened by the Academic Senate's recent revision of [Bylaw 100](#), which now specifies "periodically review and evaluate all graduate programs of study in coordination with CEP and the Academic Program Review Board, as appropriate."

IX.C. Supporting Faculty and Research

We also aim to make strategic improvements to support our faculty and research, as they are directly connected to student success. Our first approach is to continue investing in faculty diversity, equity, and inclusion initiatives as they align with our strategic plan ([Pillar 1](#)) and benefit nearly all dimensions of our institution, such as access and success of all students, campus climate and intergroup relations, and education and scholarship. The second approach is to increase support for research—also part of our strategic plan—to improve research funding options, infrastructure, and support for faculty and students.

Through the effective use of focused hiring programs, we have increased the racial and ethnic diversity of our incoming faculty cohorts. Over the past five years, this has resulted in a large increase in the number of new faculty identifying as African American (71% increase) and those identifying as Hispanic (27% increase), and nearly achieved gender parity among new faculty hires. In the last several years, we also have increased emphasis on growth at the assistant professor rank as part of our strategy to diversify the professoriate since the candidate pool for assistant professors is generally more diverse than faculty at the more senior ranks. And as part of a competitive [UCI Black Thriving Initiative Faculty Hiring Program](#), the provost committed 12 FTE and \$450K in total programming in support of three interdisciplinary faculty clusters in: Infrastructure Equity, Poetic Justice, and Environmental Health Disparities. Over the past decade, our campus has also supported the growth of faculty in the [Professor of Teaching](#) track (Appendix 9B). Many of these faculty played a major [leadership role](#)¹⁴ (Appendix 9C) in the successful rapid transition to remote teaching during the COVID-19 pandemic and increased innovative pedagogy.

With regards to improving support for research, APG's self-study on research—Imagining Research and Creative Activity Post-Covid-19—concluded in the summer of 2022 and made several recommendations. The inquiry found the need to:

- Support the re-establishment of research networks for faculty, graduate students, and post-doctoral researchers and associates.
- Improve technology and infrastructure (including technology support staff) for remote collaborations to thrive in these new working conditions.

¹⁴ Link to an article featuring UC Irvine's professor teaching track in the *Chronicle of Higher Education*. Subscription is required to access the article.

- Re-establish UCI's research culture by improving scholars in training and community-building events, including assistance for mental distress.
- Prepare for future disruptions by institutionalizing rapid-research funding.
- Reaffirm the role of the research university in our community and society.

A central strategy to support these recommendations will be to increase research awards. To that end, the campus has set a five-year goal to increase research funding from \$500 million (already the highest level in institutional history) to \$800 million.

IX.D. Supporting Campus Operations

While there are several planned campus improvements, we focus on three that are most central to student success: revisiting and refining UCI's strategic plan, coordinating and safeguarding student data collection and dissemination, and safeguarding our financial stability. Refining the campus strategic plan enhances the foci and details of our student success goals. Enhancing student data security and coordination improves how we monitor our educational and support services. Finally, being attentive to our budget prioritizes educational needs, increases institutional efficiencies, and aligns institutional needs to the current economic climate.

IX.D.1. Strategic Plan Refresh

Having endured the ongoing COVID-19 pandemic, developed new instructional and support services and policies, and sustained efforts to facilitate social justice issues and address societal needs, we see this as an opportune time to revisit and refresh our campus strategic plan. We believe the time has come to reflect on our shared values of diversity, equity, and inclusion; commitment to social justice, student success, and transformational power of a public research university education; and refine how we make strategic investments of resources over the next five years based on our recent experiences. As such, the strategic plan refresh steering committee reviewed the four pillars of UCI's strategic plan and made several recommendations. In June 2022, the committee's recommendations were communicated to all UCI constituents for review and feedback. The refreshed strategic plan will be released by the end of the 2022 calendar year. Some of the items related to student success are highlighted below:

- Highlight the quality of and continue to invest in our highly regarded and nationally recognized graduate programs.
- Ensure that UCI's educational opportunities are an engine for social mobility, impact, and innovation.
- Diversify pedagogical options for students who seek a balance between traditional in-person instruction and online educational opportunities.
- Develop innovative technologies that will enhance student engagement and student support services.

- Expand career pathways to provide students the opportunity to supplement their education with real-world practicums, internships, and research, and provide ongoing professional development opportunities for UCI alumni.


IX.D.2. Student Data Warehouse

One key finding in the thematic self-study, and supported by other self-studies mentioned above, is the need to improve how we track and coordinate various student data across the campus, including alumni data. Given the significant amount of data on students and alumni collected by UCI, data availability needs to be coordinated across multiple sources, and should include a reflective learning process to continuously improve data security and dissemination.

We plan to address this need by enhancing the data resources in our developing student data warehouse (SDW). The overarching campus goal is to develop a centralized, coordinated, and predictive data system to improve learning experiences, retention, and student success. The SDW consolidates information from existing distributed databases used by various student systems in multiple departments and makes it available to campus offices using centrally managed reports, as well as ad hoc query tools and other self-service capabilities. Moreover, the SDW also will be a key resource for the campus to have a shared and common repository of student data from initial application to activities and outcomes after graduation. This includes data from the common administrative systems on campus as well as other sources, such as our learning management system and developing card swipe system, as well as various administrative student surveys such as UCUES, UCGSES, Senior, Alumni, and the UCI-MUST. This “complete picture and use” of student data by various stakeholders on campus is often referred to as CODAS.

IX.D.3. Campus Budget Planning

Finally, similar to many institutions of higher education across the nation and many of our UC sister campuses, increased operational and support expenses during the COVID-19 pandemic, inflationary pressure on costs, rising salaries to retain and attract high-quality faculty and staff, and lower-than-expected returns on investments may substantially strain the institutional budget without careful planning. State and national emergency funding initially supported projects addressing changing institutional needs. However, these emergency funds and sources are diminishing and soon will no longer be available, while the implemented changes require ongoing funding. In addition, many of the recommendations and plans noted above also need financial support. These realities and needs require disciplined and innovative financial strategies. In fall 2021, a [campus budget workgroup](#) comprised of 22 administrative and Academic Senate leaders was convened to conduct a review of our financial status, forecast institutional financial standing for the next five years, and develop a multi-year financial plan.



Through their review, the workgroup determined the need to revise our spending and increase revenue-generating efforts. They encouraged a multi-year budget solvency plan to increase savings and revenue. As a result of these findings and recommendations, we have instituted a 3% budget cut across all units for FY 2023 and are currently determining appropriate steps for FY 2024 and beyond. All institutional leaders also are encouraged to explore new revenue sources that align with UCI's mission. While we are at the beginning phases of our budget stabilizing efforts, below are some ideas being discussed:

- Work with UCOP to advocate for additional state funds to address capital needs and deferred infrastructure improvement obligations.
- Renew our commitment to UCI's Brilliant Future campaign.
- Encourage the development of new graduate professional programs that will serve our community.
- Invest in infrastructure to support growth in grants, licensing, and technology transfer.

IX.E. Recommendations for Campus Priorities


The campus plans and projects described above are in different phases of development. SCOR/EX compared the self-study findings with some of the campus plans and recommended the following three projects as priorities for the campus: (1) improve student support services, (2) create the Anteater Scholars learning community, and (3) improve learning outcomes assessment. SCOR/EX noted that all of the campus plans and projects will meaningfully contribute to student success improvement efforts but determined that these three would have the most significant impact. SCOR/EX offered the considerations below along with their recommendations:

Recommendation 1: Improve student support services.

- Articulate the different needs for graduate and undergraduate student support services. The self-study findings suggest that the priority for graduate students is career advising and professional mentorship, while for undergraduate students the priority is early learning intervention and support.
- Determine which is more feasible and effective – expansion or integration of existing support services (i.e., co-location).
- Plans to expand existing student support services should learn from and build on past and current [successful efforts](#) (Appendices 9D).

Recommendation 2: Create the Anteater Scholars learning community.

- The literature and our findings suggest learning communities (when properly developed) can increase engagement, belonging, and well-being, which was particularly true during the pandemic when courses shifted to an online format. This early intervention strategy may effectively increase retention as the campus also transitions to more online courses to diversify pedagogical options.

- 
- Pilot a version of this program and assess the benefits before full development.
 - The program may be better if it creates a collection of different types of learning experiences rather than a “one-size fits all” program.

Recommendation 3: Improve learning outcomes assessment.

- Develop opportunities for faculty assessment innovation, such as collaborations between faculty/program and external constituents (e.g., employers) and improving how assessment data are used for program improvement and students' career or graduate school preparation (e.g., e-portfolios).
- Leverage the SDW to enhance the efficiency, accessibility, and utility of assessment data for faculty and programs.

The above recommendations will be reviewed by the campus senior administration and Academic Senate. Their endorsement will depend on additional factors, such as the current financial headwind. At the same time, we have overcome past challenges and strengthened our academics, research, and service over the last ten years. Moreover, these past outcomes galvanize our current commitment to our mission and goals. As such, we will continue to develop innovative and effective strategies to follow through on these recommended priorities with the recognition that what we have gained from this institutional review propels the next phase of our continuous improvement process.