



University of California Tableau User Group (UC TUG)

HOSTED BY:

UC BERKELEY OFFICE OF PLANNING & ANALYSIS (OPA)

OCTOBER 12, 2018

Agenda

- ◆ Introductions & Overview of Our Berkeley (**5 minutes**)
- ◆ Our Berkeley Display Architecture (**10-15 minutes**)
 - ◆ Portal page, GitHub, embedded Tableau
 - ◆ Transition from Public to onsite Tableau Server
- ◆ Visualizations (**10-15 minutes**)
 - ◆ Bump charts, mixing in D3
- ◆ Web Content Accessibility (**10-15 minutes**)
 - ◆ Basic Principles, Testing, Resources
- ◆ Q & A (**10 minutes**)
- ◆ Next Meeting & Close (**5 minutes**)

Introductions

- ◆ Russ Acker - Office of Planning & Analysis, Interim IR Systems Manager
- ◆ Noam Manor - Student Affairs Division, Data Analytics Manager
- ◆ Sara Quigley - Office of Planning & Analysis, Data Visualization & Research Analyst

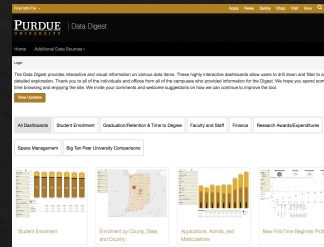
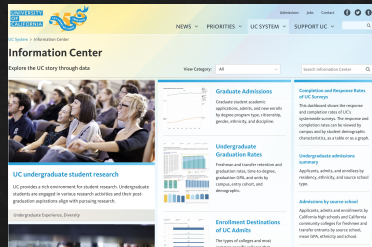
- ◆ *Our Berkeley* Data Digest

Our Berkeley is a new public-facing website featuring data and narratives on the major dimensions of UC Berkeley. It currently contains 21 dashboards covering a wide variety of subjects, all developed and released in the course of the last year.

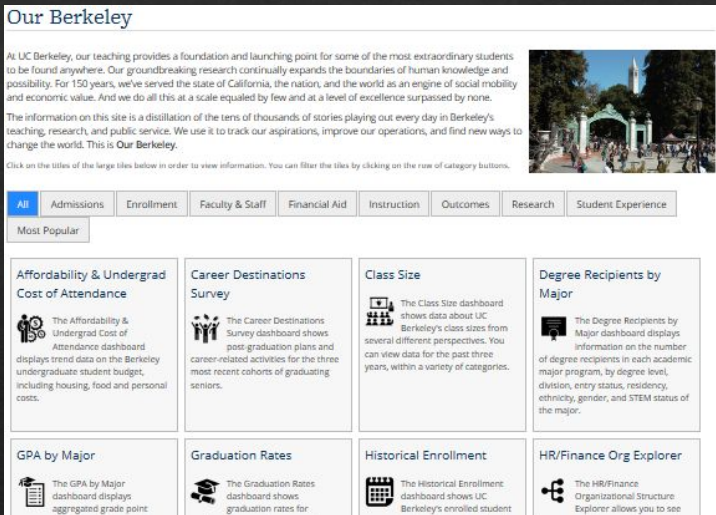
<https://opa.berkeley.edu/our-berkeley>

Beginnings of Our Berkeley

- ❖ One of Vice Chancellor-Finance Rosemarie Rae’s strategic initiatives for 2017-18 was “Leveraging Data for Strategic Decision Making”
- ❖ Presentation on staff headcount for Academic Senate
- ❖ Goals for an interactive data digest
 - ❖ Authoritative, public-facing site for UC Berkeley data
 - ❖ Provide data that informs strategic priorities and tells the Berkeley story
 - ❖ Straightforward access to our data, with context
 - ❖ Transparency and consistency in data and narratives
 - ❖ Comparisons to peer institutions where appropriate
- ❖ Inspired by [UC Info Center](#) and [Purdue University Data Digest](#)



Our Berkeley Architecture Web



Our Berkeley

At UC Berkeley, our teaching provides a foundation and launching point for some of the most extraordinary students to be found anywhere. Our groundbreaking research continually expands the boundaries of human knowledge and possibility. For 150 years, we've served the state of California, the nation, and the world as an engine of social mobility and economic value. And we do all this at a scale equaled by few and at a level of excellence surpassed by none.

The information on this site is a distillation of the tens of thousands of stories playing out every day in Berkeley's teaching, research, and public service. We use it to track our aspirations, improve our operations, and find new ways to change the world. This is [Our Berkeley](#).

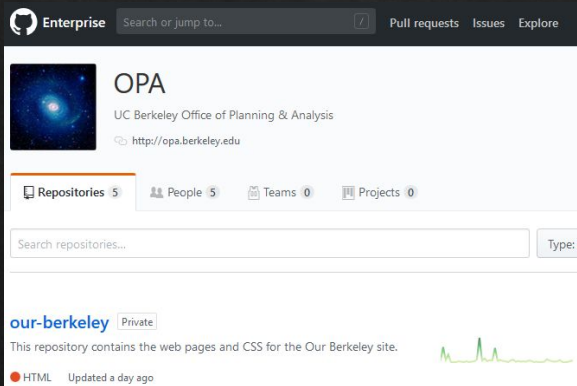
Click on the titles of the large tiles below in order to view information. You can filter the tiles by clicking on the row of category buttons.

[All](#) | [Admissions](#) | [Enrollment](#) | [Faculty & Staff](#) | [Financial Aid](#) | [Instruction](#) | [Outcomes](#) | [Research](#) | [Student Experience](#)

Most Popular

- Affordability & Undergrad Cost of Attendance**
The Affordability & Undergrad Cost of Attendance dashboard displays trend data on the Berkeley undergraduate student budget, including housing, food and personal costs.
- Career Destinations Survey**
The Career Destinations Survey dashboard shows post-graduation plans and career-related activities for the three most recent cohorts of graduating seniors.
- Class Size**
The Class Size dashboard shows data about UC Berkeley's class sizes from several different perspectives. You can view data for the past three years, within a variety of categories.
- Degree Recipients by Major**
The Degree Recipients by Major dashboard displays information on the number of degree recipients in each academic major program, by degree level, division, entry status, residency, ethnicity, gender, and STEM status of the major.
- GPA by Major**
The GPA by Major dashboard displays aggregated grade point
- Graduation Rates**
The Graduation Rates dashboard shows graduation rates for
- Historical Enrollment**
The Historical Enrollment dashboard shows UC Berkeley's enrolled student
- HR/Finance Org Explorer**
The HR/Finance Organizational Structure Explorer allows you to see

- ◆ Portal Page uses Drupal-based [Open Berkeley](#)
 - ◆ Easy to build & intuitive navigation
 - ◆ Can't put JavaScript in pages
- ◆ Berkeley now has a centrally-funded, on-premise, private instance of GitHub Enterprise
 - ◆ Can store lots of different kinds of code and data
 - ◆ Automatic version control
 - ◆ GitHub Pages allow for flexible display, but still Berkeley-branded



Enterprise Search or jump to... Pull requests Issues Explore

OPA
UC Berkeley Office of Planning & Analysis
<http://opa.berkeley.edu>

Repositories 5 | People 5 | Teams 0 | Projects 0

Search repositories... Type:

our-berkeley Private

This repository contains the web pages and CSS for the Our Berkeley site.

HTML Updated a day ago

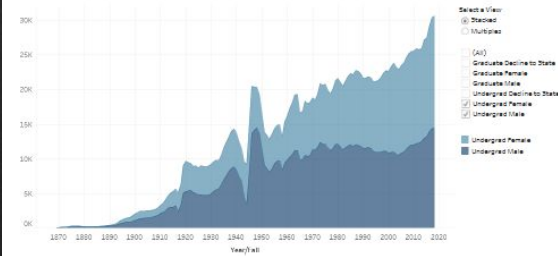
Our Berkeley Architecture Tableau

Our Berkeley

OPA Home » Our Berkeley » Enrollment History

Enrollment History Since 1869

This chart and table show total enrollment at the University of California, Berkeley, by student level and gender, since the university's first entering class in 1869. The periods during, and immediately after both world wars saw significant fluctuations in enrollment. A general upward trend followed adoption of the California Master Plan for Higher Education in the early 1950s, with recent years seeing an even steeper increase in enrollment.



Year/ Fall	Spring	Graduate			Undergrad			Grand Total	
		Decline to State	Female	Male	Total	Decline to State	Female		Male
2018	33	5,418	6,235	11,666	244	36,221	14,378	30,893	42,519
2017	26	5,234	6,096	11,336	210	35,966	14,308	30,574	41,919
2016	4	4,980	5,879	10,863	204	35,246	13,900	29,310	40,173
2015	0	4,923	5,785	10,708	7	34,313	13,176	27,496	38,204
2014	0	4,720	5,727	10,445	0	34,335	12,991	27,126	37,581
2013	0	4,645	5,698	10,353	0	33,941	12,690	26,951	36,204
2012	0	4,695	5,520	10,215	0	33,452	12,382	26,774	35,899
2011	0	4,585	5,672	10,257	0	33,660	12,225	25,885	36,142
2010	0	4,614	5,604	10,258	0	33,514	12,026	25,540	35,808
2009	0	4,443	5,670	10,313	0	33,609	12,021	25,530	35,843
2008	0	4,604	5,654	10,258	0	33,385	11,766	25,151	35,409
2007	0	4,642	5,675	10,317	0	33,242	11,394	24,636	34,953
2006	0	4,604	5,446	10,070	0	32,580	10,980	23,863	33,933
2005	0	4,642	4,434	9,076	0	32,629	10,843	23,482	33,558
2004	0	4,548	5,396	9,934	0	32,346	10,534	22,890	32,814

Download this data here (Last updated on Oct. 3, 2018)

Sources & Methodology:

- Data for years prior to 1965 comes from The Centennial Record of the University of California, 1868-1968, with a few minor corrections. From 1965 through 1982, we've used internal files maintained by UC Berkeley's former Office of Student Research. From 1983 to the present, we've used data from UC Berkeley's data warehouse reporting system, Cal Answers. Prior to 1965, these are unaggregated academic year headcounts, so anyone cited at any point during the year is counted as one. Since then, these values represent the official student census count for the fall quarter (1966-1982) or fall semester (1983, 1985-present).

Notes on Other Available Data:

- Another source for similar data is the UC Information Center, which compiles data from all UC campuses. When viewing historical enrollment data there, you may notice occasional small differences in counts by gender, which are due to data collection timing. Note also that the Info Center often reports Optometry Residents in a separate "Health Sciences" category, rather than combined with other graduate students.
- The National Center for Education Statistics (often referred to as "IPEDS," the name of their primary data collection program for postsecondary institutions) also publishes data similar to this. Because they completely exclude our Optometry Residents, their counts of graduate students will be lower than we report here on campus. In addition, federal reporting requirements currently do not allow "Decline to State" as a gender value; these are defaulted to "Male" instead.

Comments or Questions?

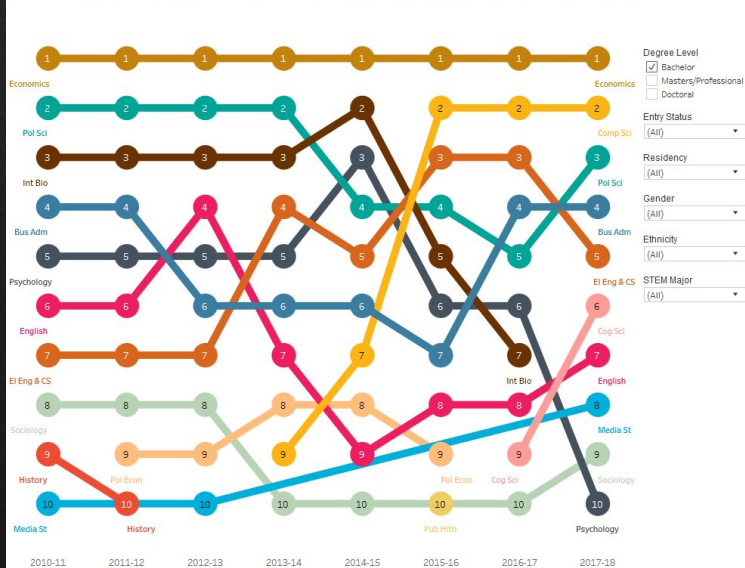
- ◆ GitHub Pages have embedded Tableau dashboards or embedded D3 code
 - ◆ Surrounding page has Berkeley Brand elements
 - ◆ Page also includes "Sources & Methodology" and "Notes on Other Available Data" sections
- ◆ Tableau Server
 - ◆ Currently using Tableau Public Server (aggregated data)
 - ◆ Will switch to on-site Tableau Server in Spring 2019

Bump Charts & Other Interesting Visualizations

- ◆ Where possible, we've tried to display data in visually interesting ways to maintain user interest.

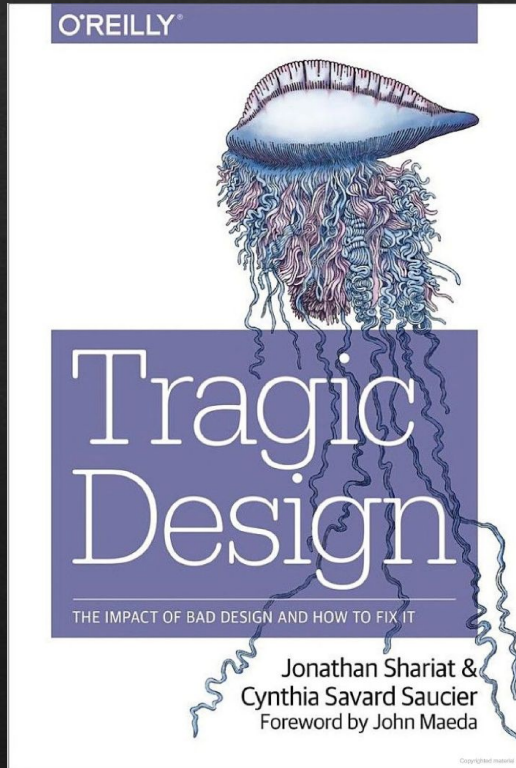
This chart ranks the ten largest degree recipient majors based on their relative size in each academic year.

A lower ranking does not necessarily mean that the program has fewer degree recipients than in prior years. A program could be ranked lower even if it has more students than before if other programs have surpassed it in size. Programs are displayed only if they are in the top ten in a given year.



- ◆ [Bump charts](#)
- ◆ [Sankey diagrams](#)
- ◆ Packed bubble charts
- ◆ Treemaps
- ◆ Choropleth maps
- ◆ Embedded D3

Web Content Accessibility



According to a US Census Bureau report, “About 56.7 million people—19% of the population—had a disability in 2010, according to a broad definition of disability, with more than half of them reporting the disability was severe.”

<https://www.tragicdesign.com/>

Accessibility Principles

TABLE OF CONTENTS	
1. Introduction	Accessible Rich Internet Applications (WAI-ARIA) 1.1 W3C Recommendation 14 December 2017
1.1 Rich Internet Application Accessibility	
1.2 Target Audience	
1.3 User Agent Support	
1.4 Co-Evolution of WAI-ARIA and Host Languages	
1.5 Authoring Practices	
1.5.1 Authoring Tools	
1.5.2 Testing Practices and Tools	
1.6 Assistive Technologies	
2. Using WAI-ARIA	
2.1 WAI-ARIA Roles	
2.2 WAI-ARIA States and Properties	
2.3 Managing Focus	
3. Conformance	
3.1 Non-interference with the Host Language	
3.2 All WAI-ARIA in DDM	
3.3 Assistive Technology Notifications Communicated to Web Applications	
3.4 Conformance Checkers	
3.5 Deprecated Requirements	
4. Important Terms	
5. The Roles Model	
5.1 Relationships Between Concepts	
5.1.1 Superclass Role	
5.1.2 Subclass Roles	
5.1.3 Related Concepts	
5.1.4 Base Concept	
5.2 Characteristics of Roles	
5.2.1 Abstract Roles	
5.2.2 Required States and Properties	
5.2.3 Supported States and Properties	
5.2.4 Inherited States and Properties	
5.2.5 Required Owned Elements	
5.2.6 Required Context Role	
5.2.7 Accessible Name Calculation	
5.2.7.1 Name Computation	
5.2.7.2 Description Computation	
5.2.7.3 Text Alternative Computation	
5.2.7.4 Roles Supporting Name from Author	
5.2.7.5 Roles Supporting Name from Content	
5.2.8 Presentational Children	
5.2.9 Implicit Value for Role	
5.3 Categorization of Roles	
5.3.1 Abstract Roles	
5.3.2 Widget Roles	

- Make the page keyboard navigable
 - using **id**, **aria-label**, **role** and **tabindex** attributes
- Make **link text** meaningful and human-readable
- Leverage the **ARIA spec** to make the page work with assistive technologies.
 - ARIA = Accessible Rich Internet Applications
<https://www.w3.org/TR/wai-aria/>

Accessibility Testing



- Test keyboard navigation and control
 - tab order, “skip to content” option
- Ensure that the narrative and the tabular data are accessible
- Tools
 - ChromeVox
 - VoiceOver
 - Web Accessibility Evaluation Tools List

<https://www.w3.org/WAI/ER/tools/>



Tableau Embed Code

the <object> element attributes

aria-label

holds the narrative content

tabindex

provides keyboard navigability

id

provides a 'skip to content' target

```
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  <noscript>
    <a href='#'>
      <img alt='Story 1 ' src=
        'https://public.tableau.com/static/images/enrollment-headcount-campus_0/Story1/1_rss.png'
        style='border: none'>
    </a>
  </noscript>
  <object aria-label=
    'UC Berkeley''s total year-average campus enrollment is 41,000 students. Campus
    enrollment has grown by more than 16% over a 7-year period beginning in 2010. ...
    UC Berkeley has increased the number of undergraduate California residents and
    maintained a steady proportion of non-resident students, whose tuition dollars
    support all undergraduates.' class='tableauViz' id='viz1' style='display:none;'
    tabindex='-1'>
    <param name='host_url' value='https%3A%2F%2Fpublic.tableau.com%2F'>
    <param name='embed_code_version' value='3'>
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Next Meeting

- ◆ November 9th 2018
- ◆ Host – UC San Diego

