

**UCDAVIS**

Budget and Institutional Analysis

# Our Journey From Excel Reports To Tableau Dashboards

Data & Donuts Presentation

January 16, 2019

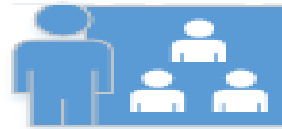


# Once upon a time...

- **Chapter1: The Old Days:** We slogged through Excel and PDFs to answer important questions (Introduction to Undergraduate Program Review.)
- **Chapter2: The Dawn of Change:** Then along came Tableau to lighten up our load (demonstration)
- **Chapter3: Adapting to Change:** But with new tools came new processes (Data Preparation for Tableau)
- **Chapter4: A New Way:** And with new tools came struggle (review of First and Second Designs)
- **Chapter5: A new Era...**In the end, we had efficient and reliable processes. And all was good.

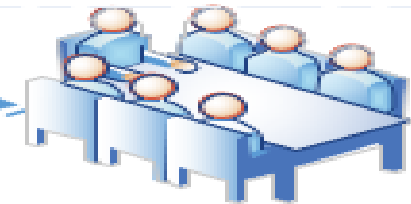
# Chapter 1: Introduction To undergraduate Program Review Process

**March**



**Academic Senate**

Forms a review team (RT)

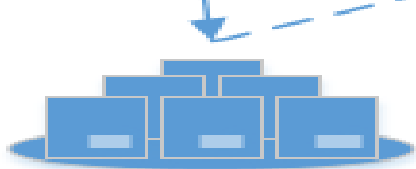


**Review Team (RT)**

Informs BIA of programs in this current review cycle

**September**

BIA produces UGPR metrics for all programs in current review cycle



**BIA**



**UGPR Metrics**

**October - March**

Requests to restate UGPR metrics based on a different methodology

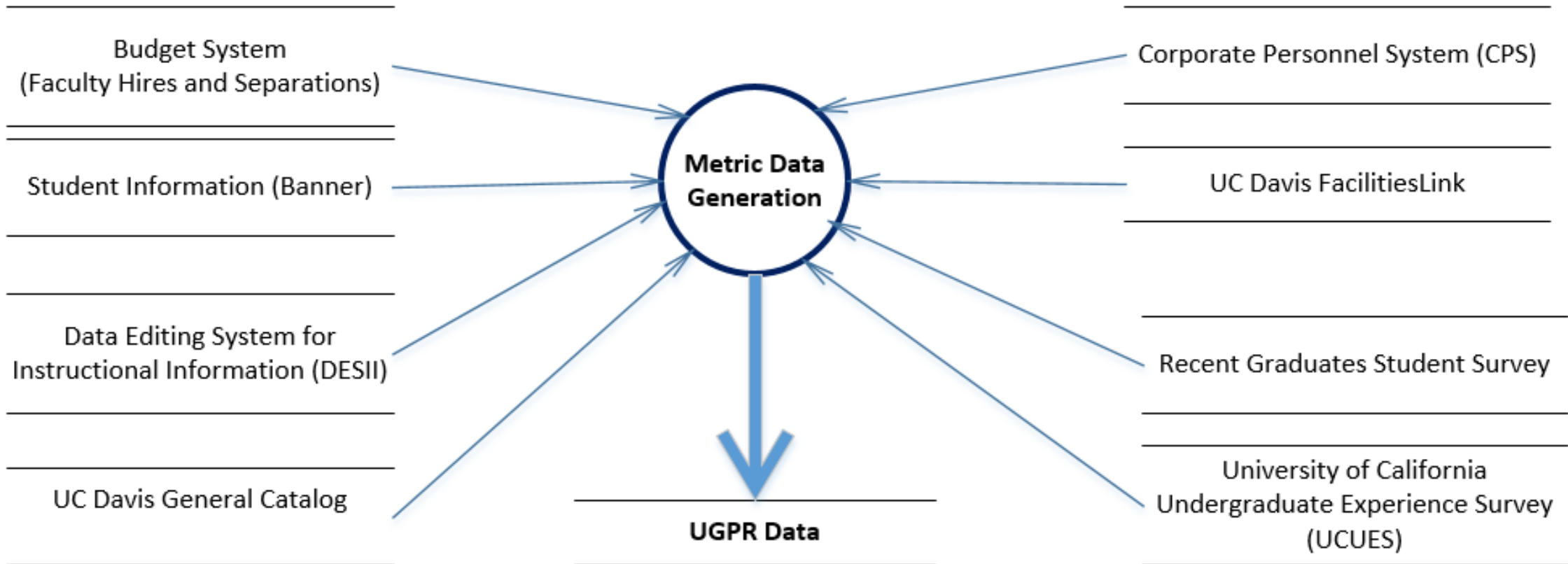
**Deans**

# Chapter1: Introduction To undergraduate Program Review Process

Sample of Questions that BIA Data Attempts To Answer:

1. *How well does the major prepare students for postgraduate education and careers?*
2. *What are the characteristics of the faculty involved in the program?*
3. How effective is the delivery of instruction in the major?

# Chapter1: Introduction To undergraduate Program Review Process



# Chapter1: Excel Reporting Tool

Table 6: Majors per Ladder Faculty FTE

B10		28.66667				
	A	B	C	D	E	
4	Row Labels	2008-09	2009-10	2010-11	2011-12	
5	⊕ Group1	5146.99999	5290.33334	5355.33335	5511.66667	
6	⊕ BISC	5133.33335	5134.99998	5127.66665	5181.33333	
7	⊕ ENGI	2729.33333	2846.33334	3019.66665	3134.33332	
8	⊖ Group2					
9	⊖ HARC	2981.00001	2856.33334	2661.99999	2422.99999	
10	⊖ AF-AMST	28.66667	33	36	34.33333	
11	African American & African Std	28.66667	33	34.66667	34.33333	
12	Afro-American Studies			1.33333		
13	⊖ AMR STD	29.66667	33.66667	38.66667	31.66667	
14	American Studies	29.66667	33.66667	38.66667	31.66667	
15	⊖ ART	250.66666	268.66667	271	253.66666	
16	Art History	79.33333	71	66	57.33333	
17	Art Studio	171.33333	197.66667	205	196.33333	
18	⊖ AS-AMST	65.66667	52.66667	53.66666	44	
19	Asian American Studies(Hum)	65.66667	52.66667	53.33333	43.66667	
20	Asian American Studies(Soc)			0.33333	0.33333	
21	⊖ CHICANO	70.66667	81.66667	88	87.33333	

# Chapter1: Excel Reporting Tool

		FORMULAS ONLY (MAY BE INCORRECT DUE TO SHIFTS IN PIVOT TABLE)								VALUES ONLY				
		2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16					
CAES	ENV TOX	2729.333	2846.333	3019.667	3134.333	3834	3981	4379	4409.333	Program Review 1415	ENV TOX	69.66667	86.66667	
		5.66667	5.33333	5.33333	4	5	7.66667	6.66667	5.83333				3.73	4.5694
		481.6	533.7	566.2	783.6	766.8	519.3	656.8	755.9				18.7	19.0
		LAW RES	2981	2856.333	2662	2423	2391	2416.333	2647	2767		LAW RES	35	39.66667
			0	0	0	0	0	0	0	0			11.37	9.90064
			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			3.1	4.0
		M&CS	16.0	12.0	10.7	6.3	7.0	7.0	6.0	3.3	Program Review 1516	M&CS	0.0	0.0
			2.7	2.3	2.2	2.2	2.4	2.4	2.6	2.1				13.5
		5.9	5.3	4.9	2.8	3.0	2.9	2.3	1.6			0.0	0.0	
	AG &EE										AG &EE			
	SCIENCE & SOCIETY										SCIENCE & SOCIETY			

# Chapter1: Excel Reporting Tool

**CATEGORY - FACULTY IN MAJOR**

**Majors per Ladder Faculty FTE  
2009-10 through 2015-16**

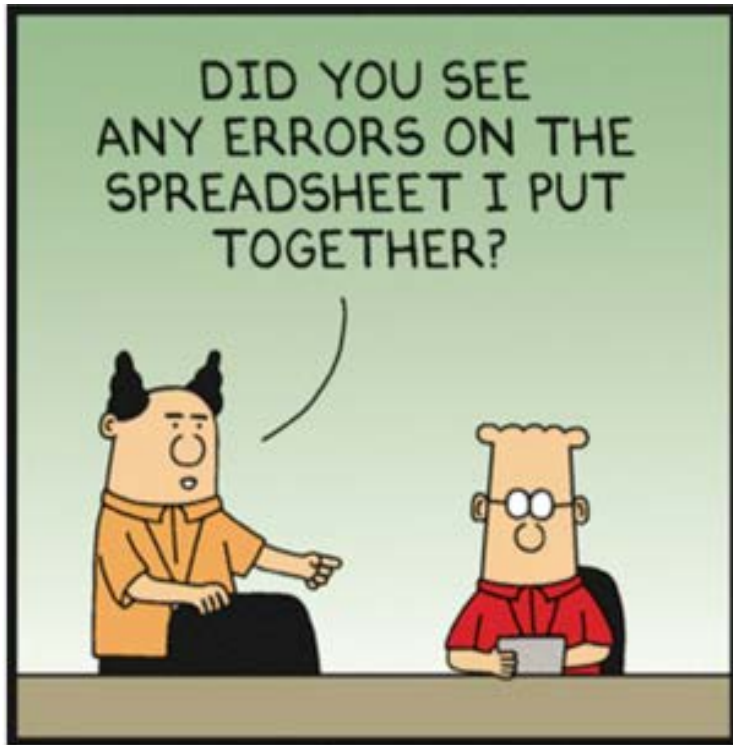
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	% Change
UC DAVIS	26.9	27.9	29.4	30.0	31.2	32.0	31.7	18%
COLLEGE OF LETTERS AND SCIENCE	21.8	22.2	23.1	22.0	22.0	23.1	23.2	6%
ASIAN AMERICAN STUDIES	9.9	9.0	5.8	5.5	5.2	8.9	7.3	-26%

These figures were calculated by dividing the total 3 quarter average Duplicate Count Majors by total Ladder Faculty Instructional FTE. Ladder Faculty includes Lecturer SOE, Asst., Assoc., and Full Professors.

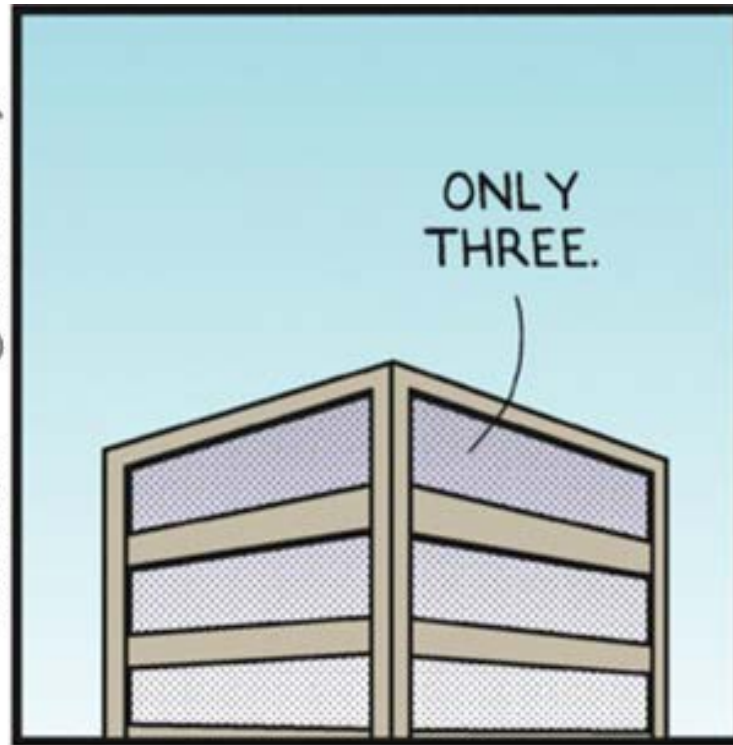
Source: SIS-DS - Student Reports (UG Majors) and Instructor Workload Reports (instructional FTE).



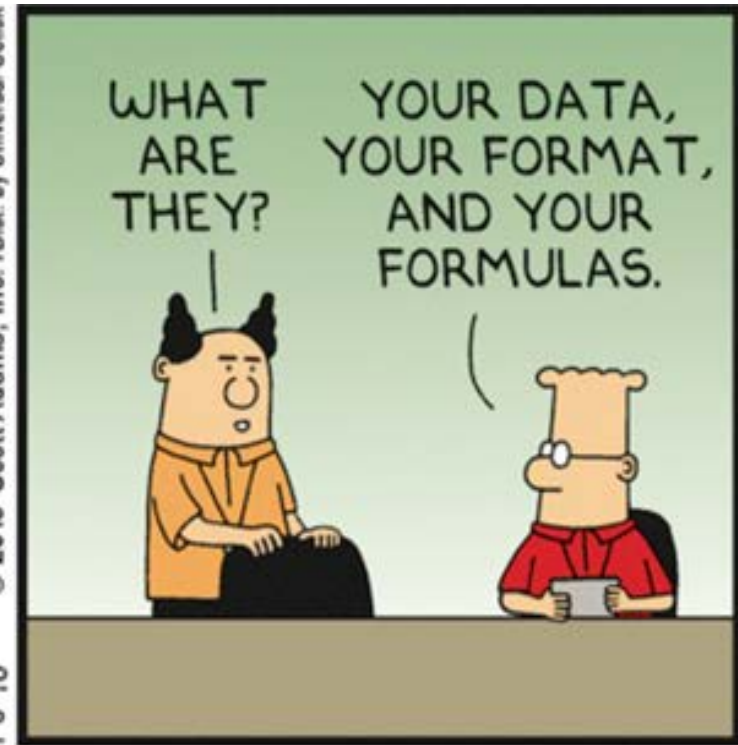
# Chapter 1: Excel Reporting Tool



Dilbert.com @ScottAdamsSays



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# Chapter2: Then along came Tableau to lighten up our load and mood (demonstration)



<https://aggiedash.ucdavis.edu/#/projects/5/workbooks>

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[Home](#) > Undergraduate Program Review – Data Appendices



# Undergraduate Program Review – Data Appendices

PROJECT

Projects 0 **Workbooks** 3 Views 36 Data Sources 0 Details

▼ 0 items selected

Appendix B

373 views ☆ 0

Ques ID	Ques	Ques	%	Map
1	UG01	Do you understand how the requirements of your major compare to those of a program understanding of the field of study?	95%	Class Subject
			21%	Environmental Policy, Analysis & Planning
			33%	Environmental Science & Management
			52%	Land-use & Resource
			95%	Water & Environmental
2	UG02	Are the requirements well defined?	95%	Class Subject

Appendix C

48 views ☆ 0

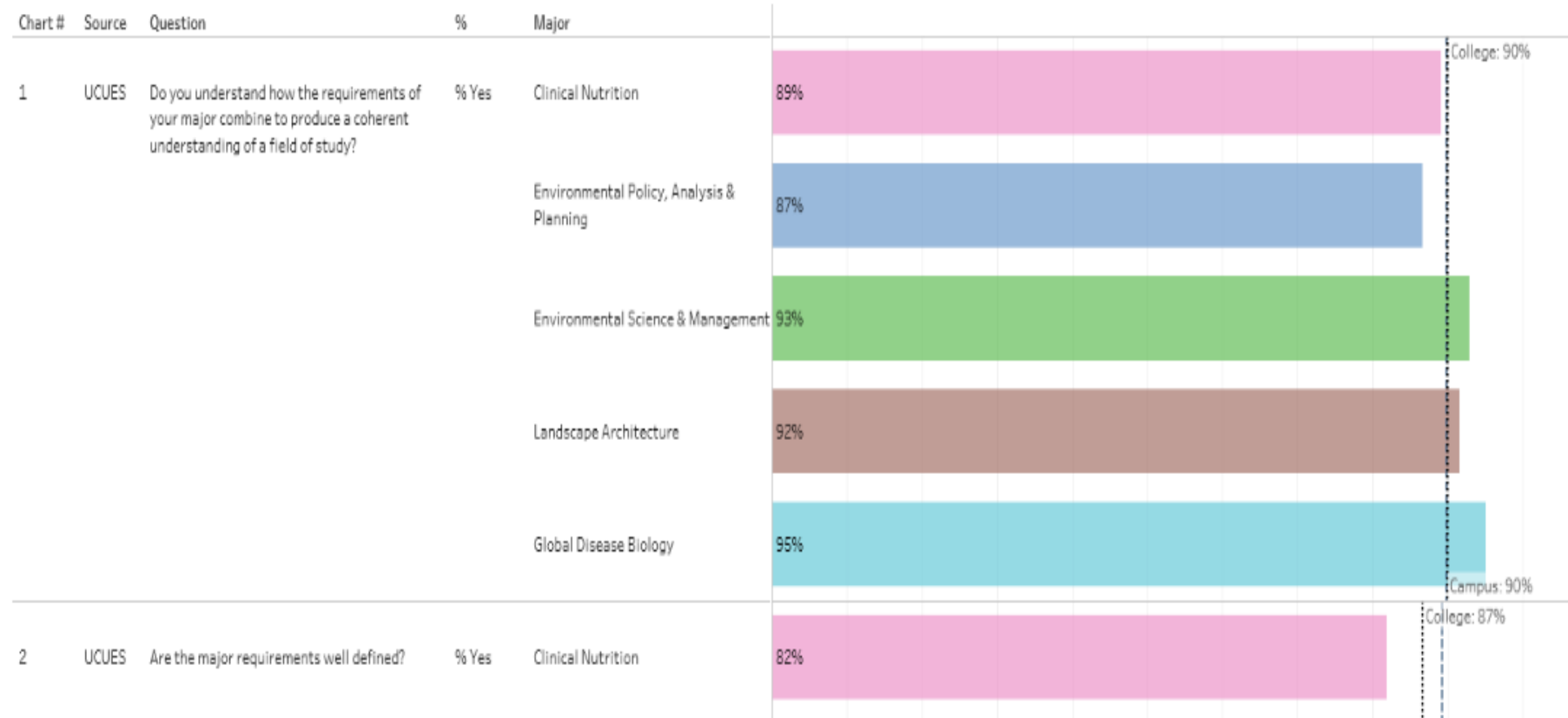
Appendix A & D

19 views ☆ 0

### College of Agriculture & Environmental Sciences - Cluster 5

Category: *Students' Perceptions of the Major*

Sub-Category: *Overall Understanding of Major*



- College
  - College of Agriculture & Environmental Sciences
  - College of Biological Sciences
  - College of Letters & Sciences
- Category
  - Students' Perceptions of the Major
  - Postgraduate Preparation
  - Educational Objectives
  - Resources in the Major
- Sub-Category
  - Overall Understanding of Major
  - Overall Satisfaction
  - Satisfaction with Instruction
  - Satisfaction with Academic Advising
  - Satisfaction with Courses

# UC DAVIS

## Undergraduate Program Review

### Appendix B TABLE 6

#### CATEGORY - FACULTY IN MAJOR

##### Majors per Ladder Faculty FTE, 2011-12 through 2017-18

		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
UC DAVIS	Major Per Ladder FTE	29.4	30.0	31.2	32.0	31.7	30.8	31.9
	% Difference from 2011-12		2.3%	3.8%	2.6%	-1.0%	-2.7%	3.7%
COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES	Major Per Ladder FTE	44.0	44.5	47.7	49.6	53.4	53.2	52.3
	% Difference from 2011-12		1.2%	7.2%	3.9%	7.7%	-0.3%	-1.8%
Department of Plant Pathology	Major Per Ladder FTE				1.6	18.5	38.7	52.0
	% Difference from 2011-12					1036.0%	109.2%	34.2%
*Program Global Disease Biology	Major Per Ladder FTE				1.8	18.5	38.7	52.0
	% Difference from 2011-12					951.8%	109.2%	34.2%
Department of Environmental Science and Policy	Major Per Ladder FTE	17.6	13.6	13.4	12.7	15.6	15.5	15.6
	% Difference from 2011-12		-22.9%	-1.1%	-5.1%	22.5%	-0.4%	0.2%
Department of Human Ecology	Major Per Ladder FTE		58.5	58.8	65.6	66.7	67.8	55.7
	% Difference from 2011-12			0.5%	11.6%	1.6%	1.7%	-17.8%
Department of Land, Air, and Water Resources	Major Per Ladder FTE	38.1	36.7	40.0	38.4	41.6	42.1	39.5
	% Difference from 2011-12		-3.5%	9.0%	-4.0%	8.3%	1.2%	-6.3%
*Program Environmental Sci and Mgmt	Major Per Ladder FTE	24.5	23.9	23.4	23.0	24.1	23.5	21.4
	% Difference from 2011-12		-2.3%	-2.3%	-1.7%	5.0%	-2.5%	-9.0%
Department of Nutrition	Major Per Ladder FTE	85.7	90.2	107.6	132.7	134.9	122.0	98.5
	% Difference from 2011-12		5.2%	19.3%	23.4%	1.6%	-9.6%	-19.3%

College

- CAES
- CBS
- CLAS
- ENGI

These figures were calculated by dividing the three-quarter average of duplicate count of majors by the total of three-quarter average of ladder faculty instructional FTE. Ladder Rank faculty are faculty holding tenured titles or non-tenured titles in a series in which tenure may be conferred. These are the Professorial series (assistant, associate, and full professors) and Lecturers with Security of Employment (SOE).

(\*) Calculations are based on a provided list of instructors and courses.

Source: SIS-DS - Student Reports (UG Majors) and Instructor Workload Reports (Instructional FTE).

Cluster 5 - Data compiled on August 15, 2018.

# UC DAVIS

## Undergraduate Program Review

### Appendix B TABLE 7

#### CATEGORY - STUDENTS IN THE MAJOR

##### Students in Major Enrolled In Upper Division Courses - Percent of Total Course Enrollment, 2011-12 to 2017-18

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES	70.9%	71.9%	71.7%	73.3%	76.3%	77.4%	78.0%
Program Global Disease Biology				0.0%	66.7%	58.3%	63.0%
Program Environ Policy, Analy and Plan	60.2%	64.5%	66.7%	64.6%	62.1%	60.7%	67.0%
Program Landscape Architecture	78.5%	0.0%	73.1%	76.8%	76.3%	73.9%	77.1%
Program Environmental Sci and Mgmt	36.7%	33.0%	35.0%	28.4%	36.8%	33.9%	35.2%
-Environ Sci and Management	36.2%	33.0%	35.0%	28.4%	36.8%	33.9%	35.1%
-Environmental Biology & Mgmt	53.3%	44.4%		0.0%			100.0%
-Soil and Water Science	75.0%	0.0%					
Program Clinical Nutrition	66.8%	63.3%	65.7%	66.0%	63.0%	66.8%	67.9%

- College
- CAES
  - CBS
  - CLAS
  - ENGI

The percent was calculated by dividing the number of undergraduate students in upper division courses who are in undergraduate major(s) offered by the department by the total number of students in the department's upper division courses. For example, for the history program, it's the number of history majors in upper division courses divided by all students in upper division history courses.

Source: Instructional Activity Information System (IAIS)




Cluster 5 - Data compiled on August 30, 2018

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### Undergraduate Program Review - Public Data

Name	Updated ▾
 College of Biological Sciences	Sep 6, 2018 by Jason Stewart
 College of Ag & Env Sciences	Sep 6, 2018 by Jason Stewart
 College of Letters & Science	Sep 6, 2018 by Jason Stewart

# APPENDIX A

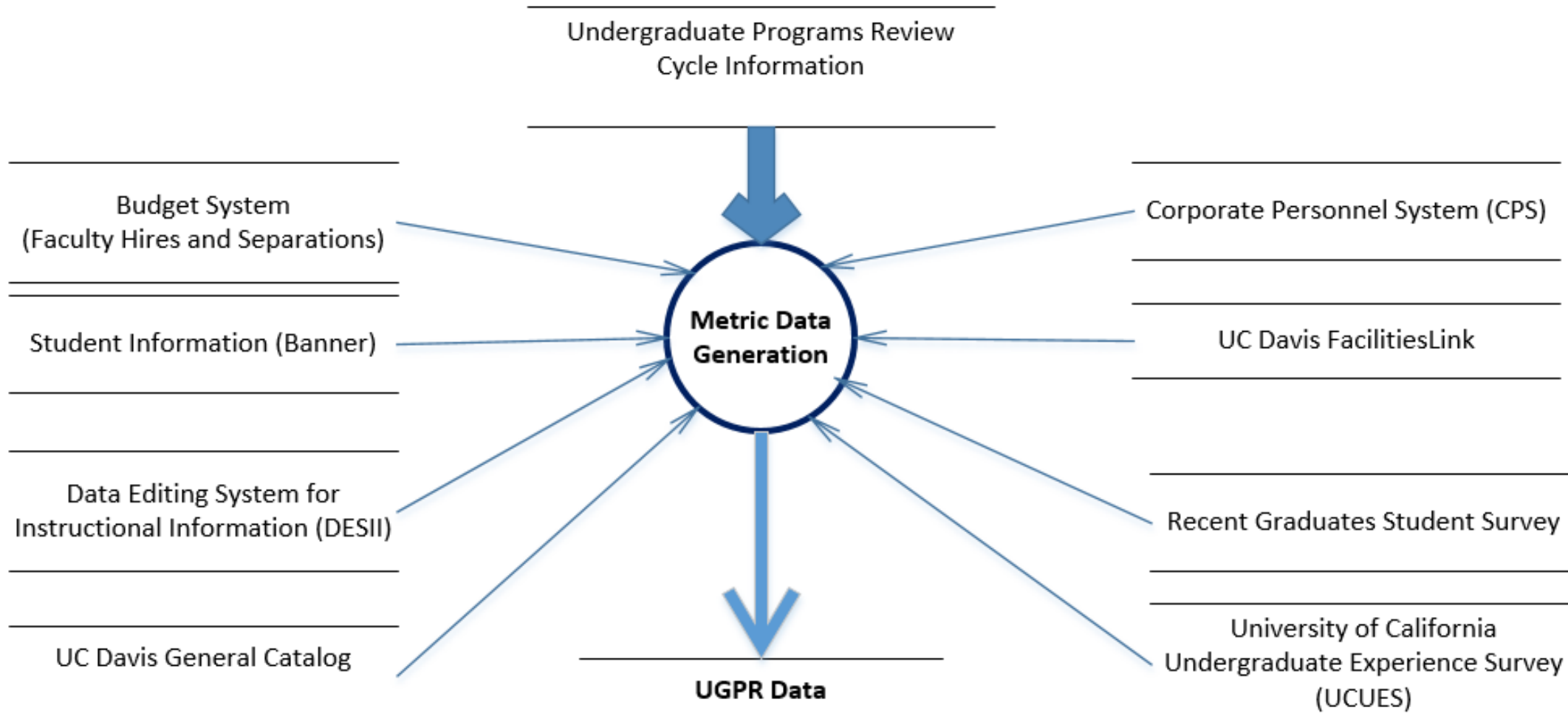
## UC DAVIS UNDERGRADUATE PROGRAM REVIEW

Excerpts from the UC Davis General Catalog  
Prepared to Support Self-review

### 2018 COLLEGE OF LETTERS & SCIENCE CLUSTER 5



# Chapter 3: But with new tools came new processes (Data Preparation for Tableau)



# Chapter3: But with new tools came new processes (Data Preparation for Tableau)

## Crosswalk Linking Department Codes

<b>CPS Home Dept.</b>	<b>DESII Dept. Code</b>	<b>Space Dept. Code</b>
30190	LAW RES	LAWR
30300	PL PATH	PLANT PATH
30200	NUTR	NUTRITION
30150	ENVSCI&P	ENV SC PILOT , ENV SCI&PLCY
11092	EVOL&EC	EVOL&ECOLOGY

# Chapter3: But with new tools came new processes (Data Preparation for Tableau)

## Mapping of Program to Subject and Department

<b>Program Code</b>	<b>Program Desc</b>	<b>Subj Desc</b>	<b>Dept. Code</b>
LAAA	African American & African Std	AFRICAN AMERICAN & AFRICAN STD	AF-AMST
AEXP	Exploratory Program	AGRICULTURAL EDUCATION	AG DEAN
LAHI	Art History	ART HISTORY	ART
AABI	Animal Biology	ANIMAL SCIENCE	AN SCI
AEHF	Environ Hort & Urban Forestry	AGRICULTURAL SYSTEMS & ENV	PLNTSCI

# Chapter 3: But with new tools came new processes (Data Preparation for Tableau)

## Program With no Data Drops From Tableau Dashboard

**UC DAVIS**

Appendix B

**UNDERGRADUATE PROGRAM REVIEW**

TABLE 9

**CATEGORY - INSTRUCTION, ADVISING, AND RESOURCES IN THE MAJOR**

### Student Faculty Ratio By Instructor Type 2009-10 through 2015-16

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	
<b>UC DAVIS</b>								
Ladder Rank	18.2	18.8	19.8	19.7	19.8	19.8	19.0	
Lecturer 18s	37.9	43.6	41.8	43.2	41.4	41.6	41.1	
Associate Ins	26.8	23.3	22.9	20.6	20.9	19.0	18.3	
Total Student Faculty Ratio	22.5	23.4	24.3	24.4	24.5	24.4	23.7	
UG Student FTE / TAs	39.6	39.2	40.0	38.4	38.8	37.9	37.4	
<b>COLLEGE OF LETTERS AND SCIENCE</b>								
Ladder Rank	18.7	18.5	19.7	18.9	18.4	18.4	17.3	
Lecturer 18s	33.8	41.1	38.8	39.4	37.1	37.2	37.3	
Associate Ins	25.0	23.2	22.5	19.3	20.1	18.2	17.1	
Total Student Faculty Ratio	23.1	24.0	24.7	24.1	23.5	23.3	22.7	
UG Student FTE / TAs	40.3	40.0	41.3	38.8	39.8	38.9	39.2	
<b>MARINE &amp; COASTAL SCIENCE</b>			NO FACULTY PAID BY MARINE & COASTAL SCIENCE					
Ladder Rank								
Lecturer 18s								
Associate Ins								
Total Student Faculty Ratio								
UG Student FTE / TAs								
<b>ANTHROPOLOGY</b>								
Ladder Rank	20.4	22.3	24.9	22.2	23.0	26.4	21.4	
Lecturer 18s	42.5	23.8	55.7	109.8	17.1	57.7	53.5	
Associate Ins	36.2	68.2	16.5	25.8	25.1	39.4	35.8	
Total Student Faculty Ratio	22.9	25.8	27.3	25.8	23.2	28.5	24.2	
UG Student FTE / TAs	30.9	26.8	31.8	30.8	25.2	27.3	25.3	
<b>COMMUNICATION</b>								
Ladder Rank	23.7	20.5	26.9	22.3	19.9	20.6	22.8	
Lecturer 18s	142.1	126.2	87.6	95.4	96.7	102.6	98.4	
Associate Ins					33.9	33.7	21.6	
Total Student Faculty Ratio	49.1	45.7	44.6	44.5	40.9	40.9	44.7	
UG Student FTE / TAs	147.5	113.0	118.1	94.1	79.4	71.0	80.5	

# Chapter 4: And with new tools came struggle (review of First and Second Designs)

**UC DAVIS**  
**Undergraduate Program Review**

**Appendix B**  
**TABLE 2**

CATEGORY - FACULTY IN MAJOR

Age of Ladder Faculty - Percent by Age Group, October 2017

Choose your college:

- CAES
- CBS

	..... Ladder Faculty Age Group.....					
*Program Environmental Sci and Mgmt	19.4%	19.4%	19.4%	19.4%	16.7%	5.6%
Department of Nutrition	28.6%	28.6%	7.1%	0.0%	35.7%	0.0%

The figures only include the four colleges that have undergraduate programs.

(\*) Calculations are based on a provided list of instructors and courses.

Source: Corporate Personnel System - October Data.

Cluster 5 - Data Compiled on August 31, 2018

The figures only include the four colleges that have undergraduate programs.

(\*) Calculations are based on a provided list of instructors and courses.

Source: Corporate Personnel System - October Data.

Cluster 5 - Data Compiled on August 31, 2018

# Chapter4: And with new tools came struggle (review of First and Second Designs)

## Multidisciplinary program: Linking Program to its courses

CLUSTER...	CYCLE...	PROGRAM_...	ACAD_YR	SUBJ_CODE	COURSE_NUM	COURSE_TITLE
5	2018	*AESM	2014-15	ATM	006	Fundmntl Atmos Pollution
5	2018	*AESM	2013-14	ATM	006	Fundmntl Atmos Pollution
5	2018	*AESM	2015-16	HYD	245	Climate Change and Water
5	2018	*AESM	2009-10	ESP	123	Field/Lab Method Ecology

## Multidisciplinary program: Linking Program to its instructors

CLUSTER_NUM	CYCLE_YEAR	PROGRAM_C...	EFF_DATE	CPS_EMP_ID	EDB_NAME	HOME_DEPARTMENT_CODE	DESII_DEPT_CODE
5	2018	*AESM	200810	042054551	SCOW,KATE M	030190	LAW RES
5	2018	*AESM	201010	346922685	WEARE,B C	030190	LAW RES
5	2018	*AESM	201010	810868216	FOGG,GRAHAM E	030190	LAW RES

# Chapter 5: ...In the end, we had efficient and reliable processes. And all was good.

