Using National and Regional Data to Evaluate Graduate Programs

Jeffery C. Gibeling

Dean - Graduate Studies

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Using Quantitative Information

- **Conversations with Chairs, Deans and Graduate Council**
- **Mentoring at Critical Transitions (MCT) faculty professional development program**
- **Graduate program review**
- **Resource allocations**
- **Enrollment management (future use)**

Sources of Data

- **NRC Assessment of Research Doctorates**
- **Survey of Earned Doctorates (SED)**
- **Survey of Doctorate Recipients (SDR)**
- **NSF WebCASPAR**
- **Association of American Universities Data Exchange (AAUDE)**
- **University of California Corporate Student System and Analyses**
- **UC Davis Doctoral Student Survey (DSS)**
- **UC Davis Campus Data**

Program Evaluation Variables

Program Characteristics

Time-to-degree (master's and doctoral)

Completion rate (master's and doctoral)

Advancement to candidacy rate (doctoral)

Number of degrees awarded per year

Percent doctoral students receiving full support

Competitiveness of stipends

Student placement in context of program goals

Visibility and reputation as evident in rankings

UC Davis market share of doctoral degrees w/r to AAU institutions

Quality of program strategic plan

Evidence that program is serving state needs

Students per faculty

Program identified criteria that could indicate quality

Student Characteristics

Average GRE-V, GRE-Q and GRE-AW

Percent underrepresented minority students

Percent international students

Student gender

Admission take rate (admits/apps)

Enrollment yield rate (enrolls/admits)

Percent receiving competitive internal or external fellowships

Research productivity of graduate students

Faculty Characteristics

Number of faculty in program

Faculty gender

Percent membership serving as thesis/dissertation committee chairs

Percent membership teaching program courses

Faculty awards and publications

Research funding per capita

Program Metrics: Ease of Measurement

| Tier 1 - Relatively immediate access		Tier 2 - More difficult to obtain	Tier 3 - Difficult data collection

→	1	Time-to-degree (master's and doctoral)		14	Average GRE-V, GRE-Q and GRE-AW
→	2	Completion rate (master's and doctoral)	→	15	Percent underrepresented minority students
→	3	Advancement to candidacy rate (doctoral)	→	16	Percent international students
→	4	Number of degrees awarded per year	→	17	Student gender
→	5	Percent doctoral students receiving full support	→	18	Admission take rate (admits/apps) and Enrollment yield rate (enrolls/admits)
	6	Competitiveness of stipends		19	Percent receiving competitive internal or external fellowships
	7	Student placement in context of program goals		20	Research productivity of graduate students
	8	Visibility and reputation as evident in rankings		21	Number of faculty in program
	9	UC Davis market share of doctoral degrees w/r to AAU institutions		22	Faculty gender
	10	Quality of program strategic plan	→	23	Percent membership serving as thesis/dissertation committee chairs
	11	Evidence that program is serving state needs	→	24	Percent membership teaching program courses
	12	Students per faculty		25	Faculty awards and publications
	13	Program identified criteria that could indicate quality		26	Research funding per capita

Using Data from the NRC Assessment of Research Doctorates

- **Preliminary analysis of data submitted by our campus**

- **Overviews of UC Davis graduate programs shared with Chancellor, Provost, Deans and Graduate Council**

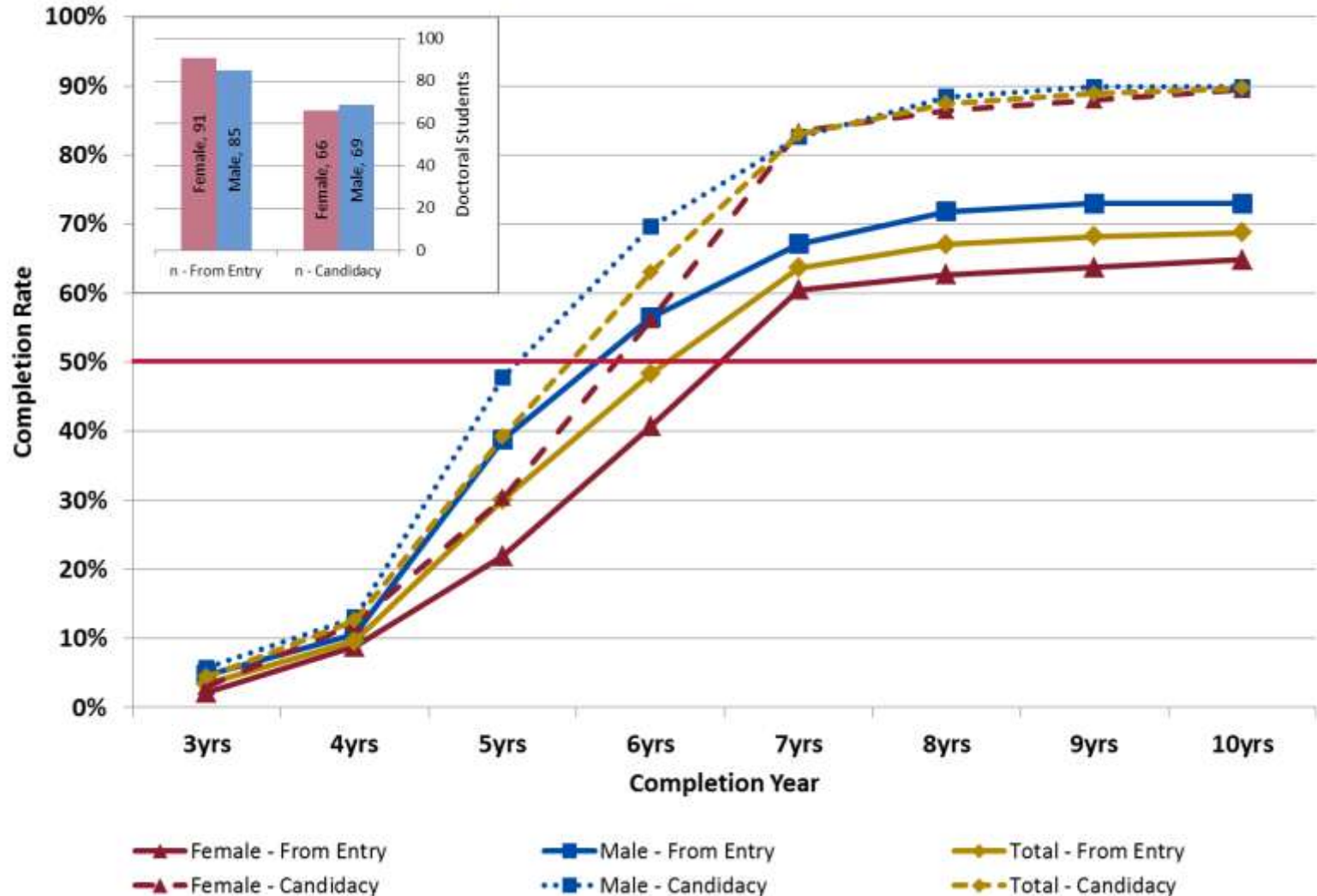- **Program-specific data analyses and data reports shared with program chairs**

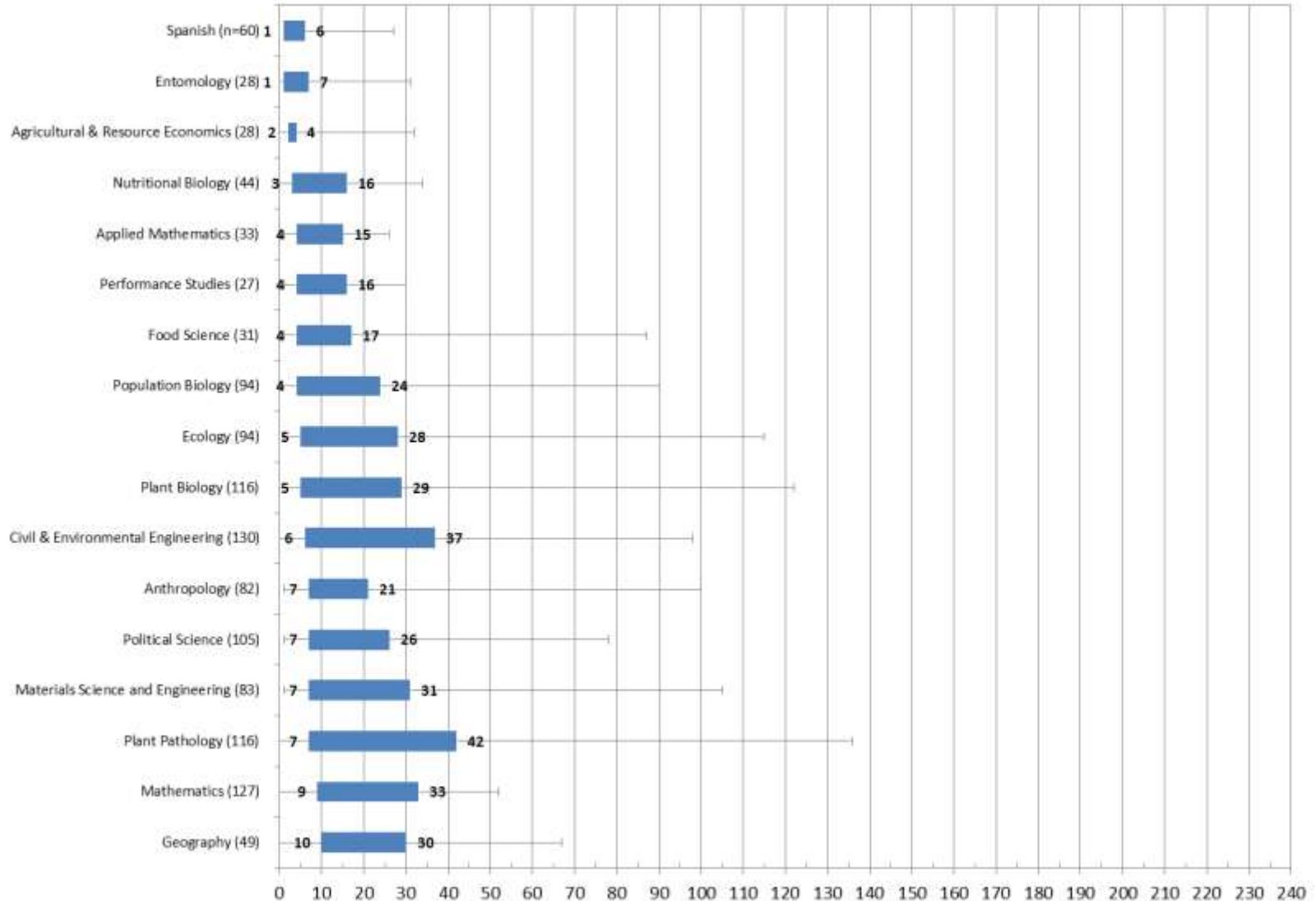# Example of Completion Plot based on NRC Data
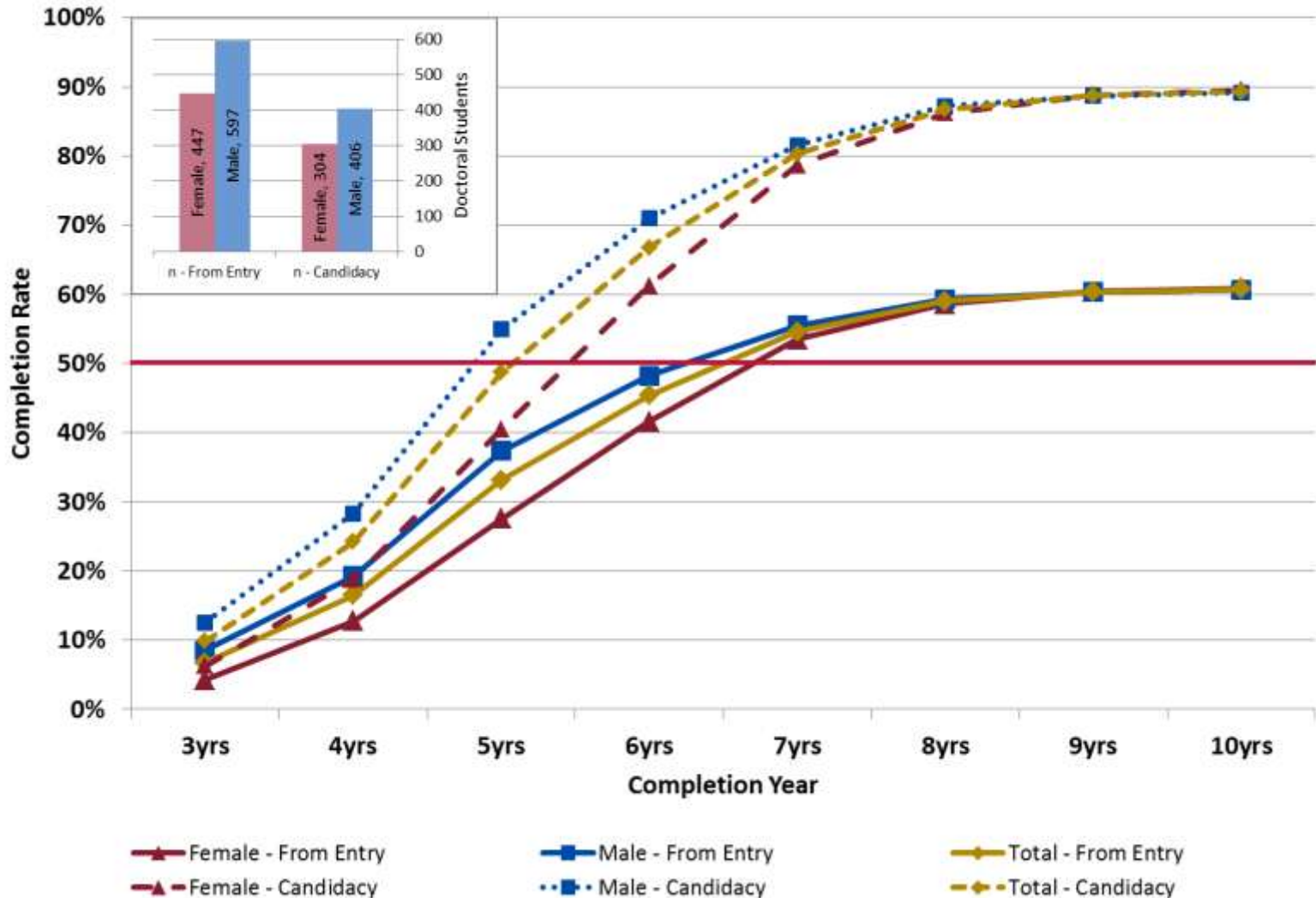
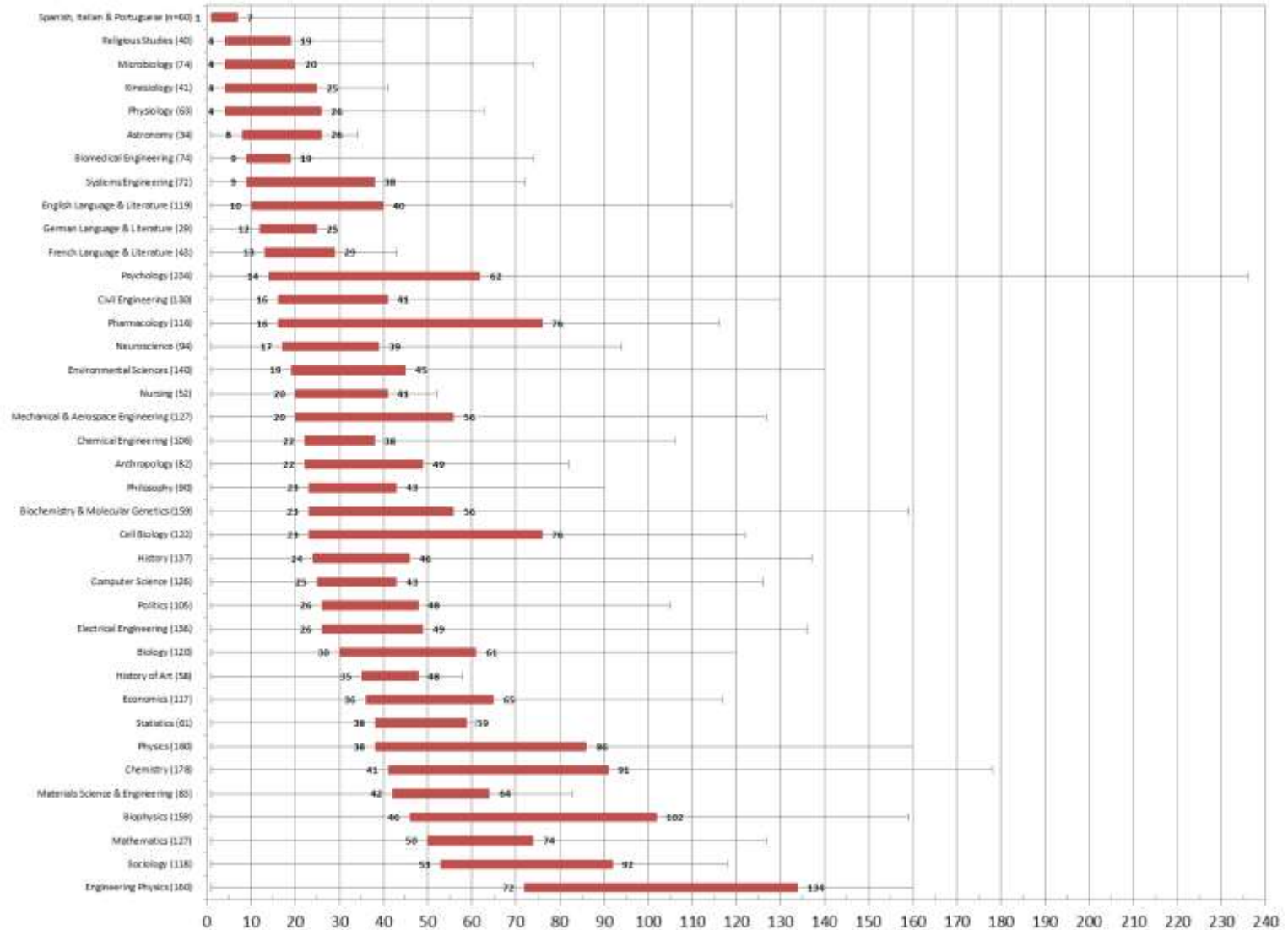# Example of Completion Plot based on NRC Data

College of Biological Sciences

NRC S-Rankings for UC Davis programs

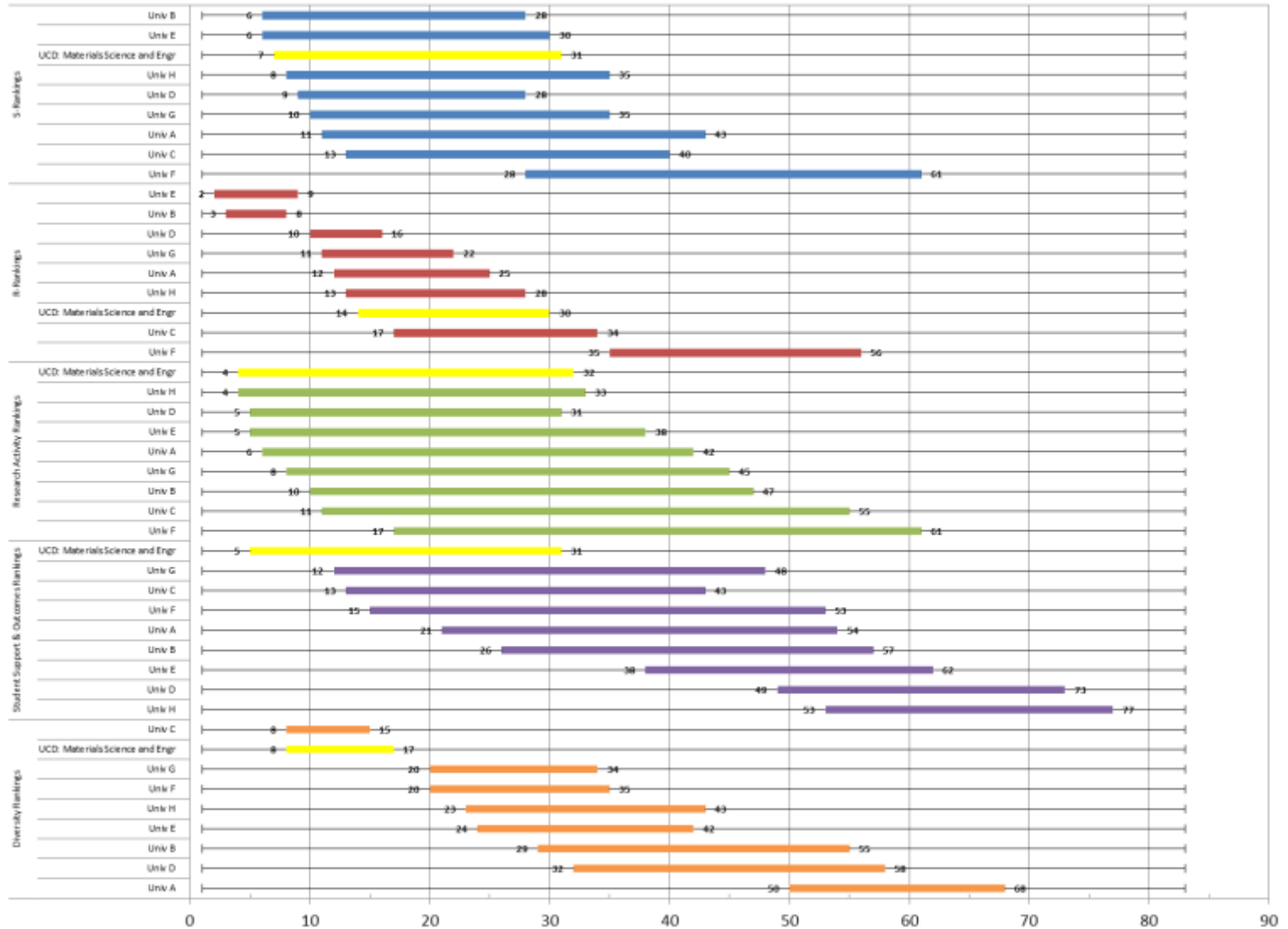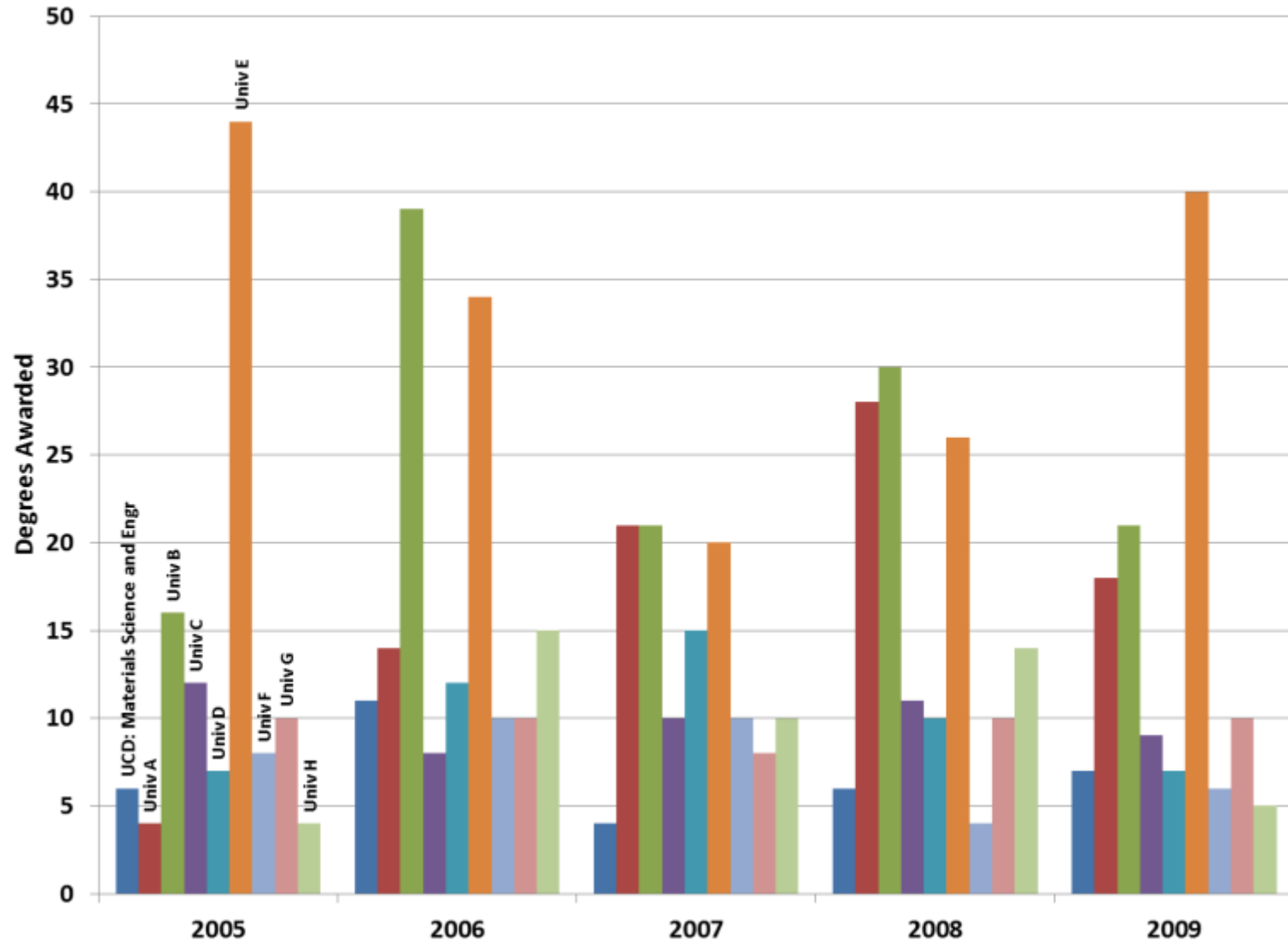**(Selected Programs, by Numeric Rank)**

UCDAVIS
OFFICE OF GRADUATE STUDIES

NRC R-Rankings for University "Z"
(All Programs, by Numeric Rank)

NRC Comparison Institutions:
Materials Science and Engineering

UCDAVIS
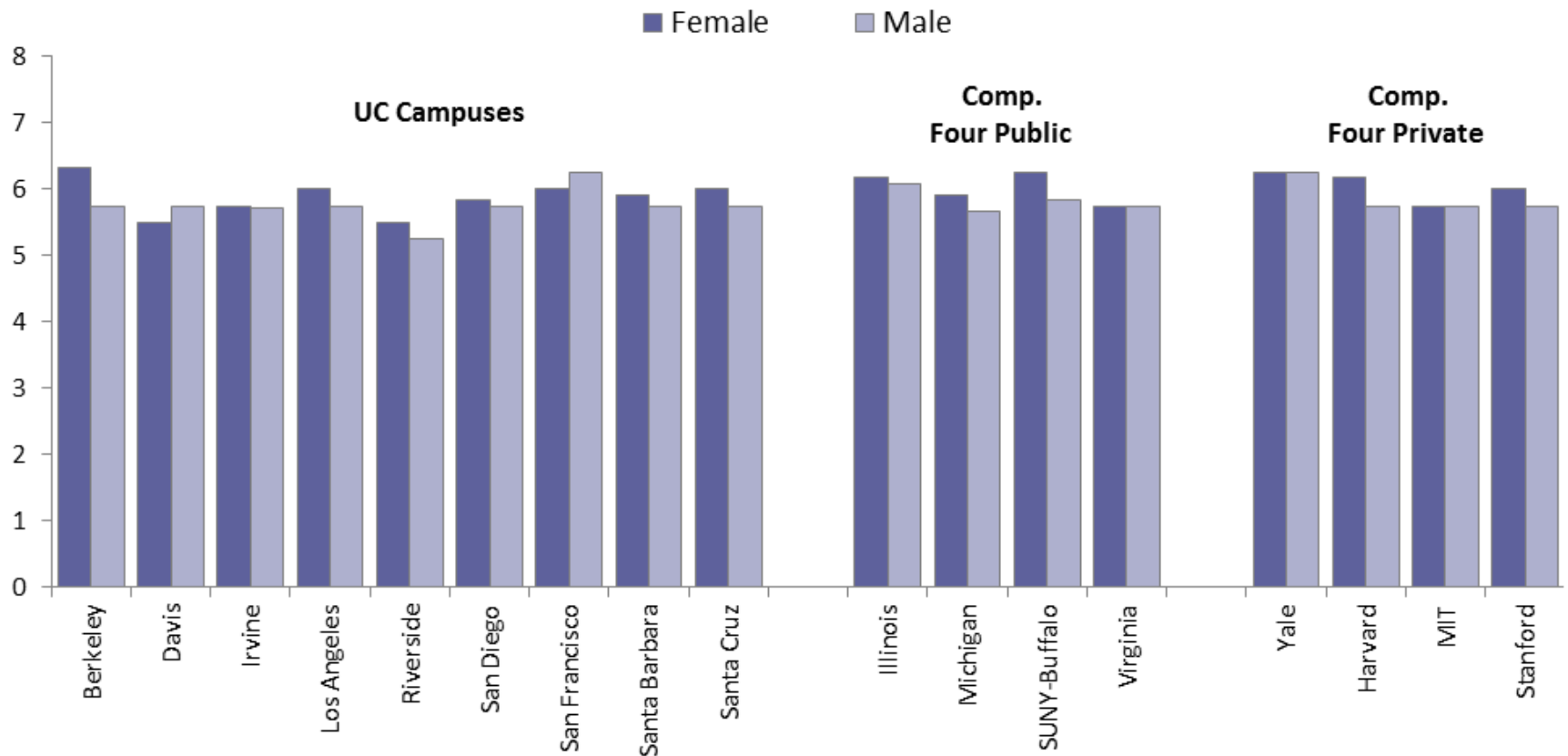## OFFICE OF GRADUATE STUDIES

SED Degrees Awarded Comparison:
Materials Engineering

SED Time-to-Degree Comparison:
Elapsed Time-to-Doctorate (Median Years) by Campus and Broad Field
UC System and AAU Institutions, 2007-09 Exit Cohorts
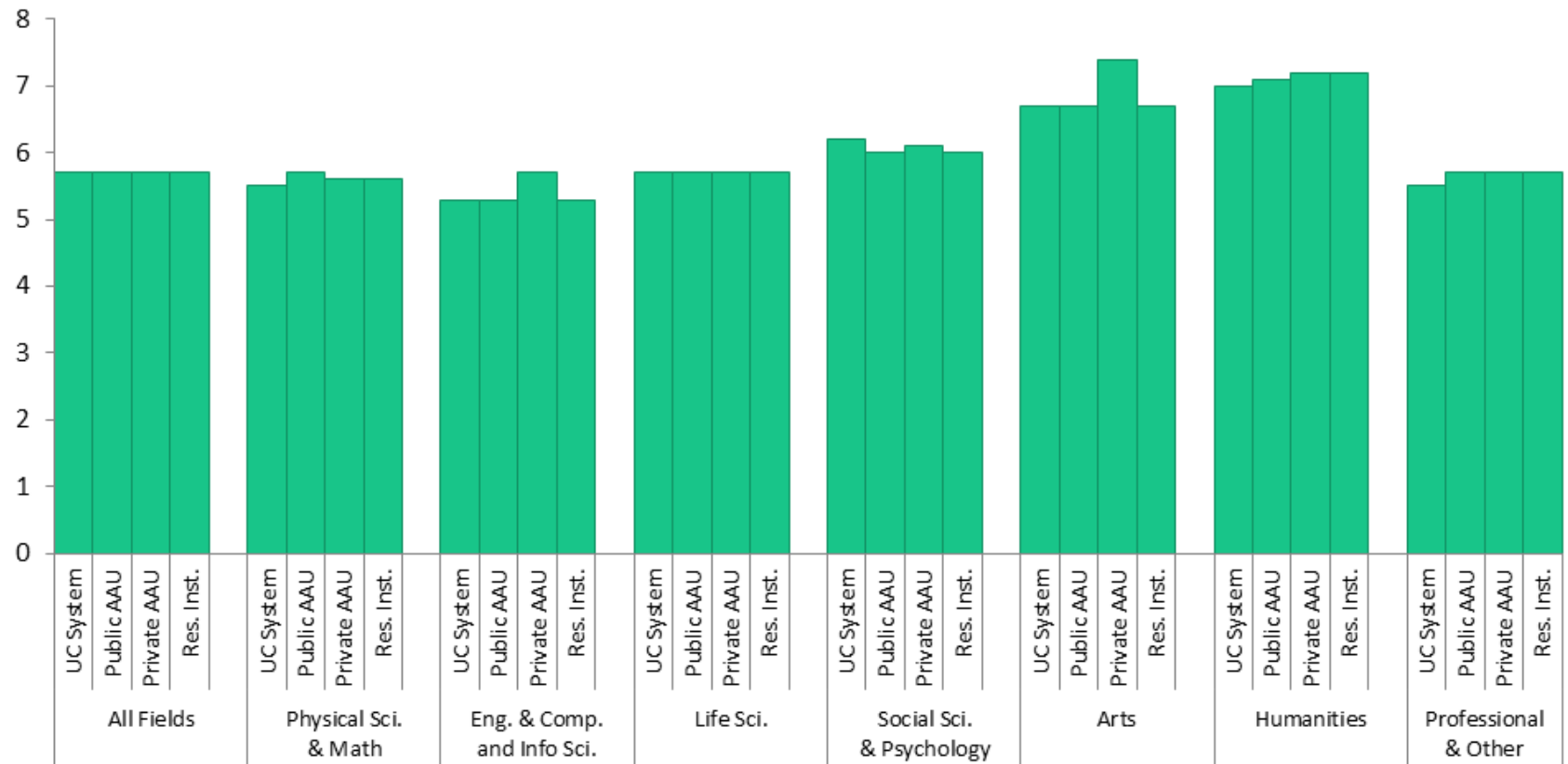
SED Time-to-Degree Comparison:
**Elapsed Time-to-Doctorate (Median Years) by Campus and Gender
UC System and Comparison Institutions, 2007-09 Exit Cohorts**

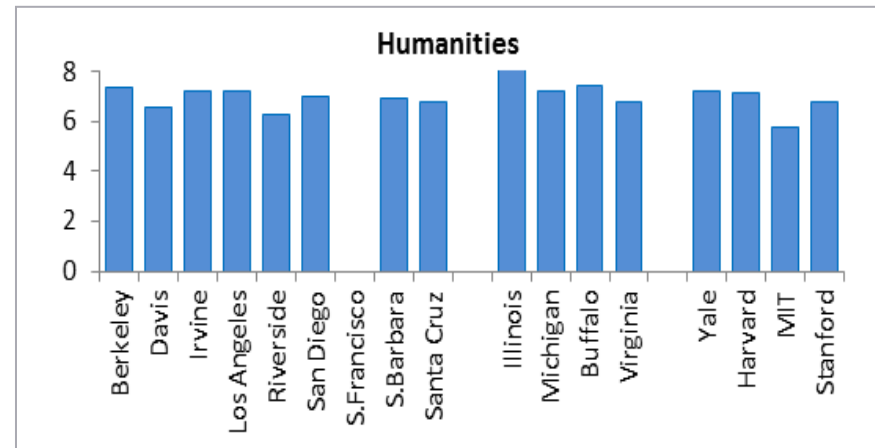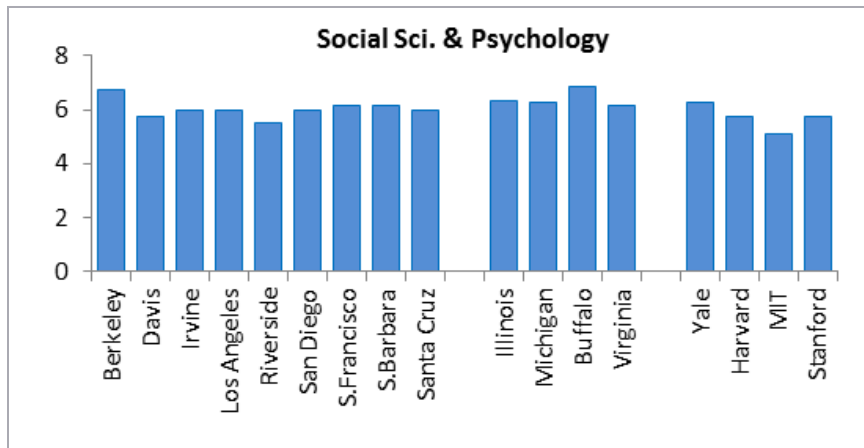# SED Time-to-Degree Comparison:
Elapsed Time-to-Doctorate (Median Years) by Campus and Broad Field UC System and Comparison Institutions, 2007-09 Exit Cohorts
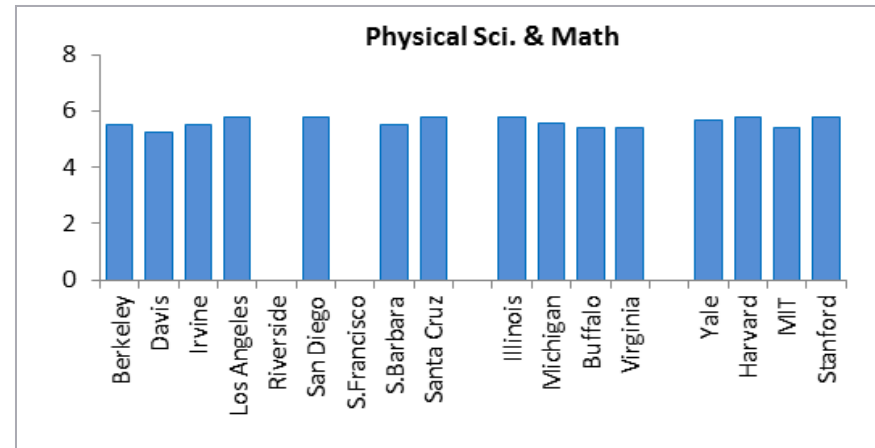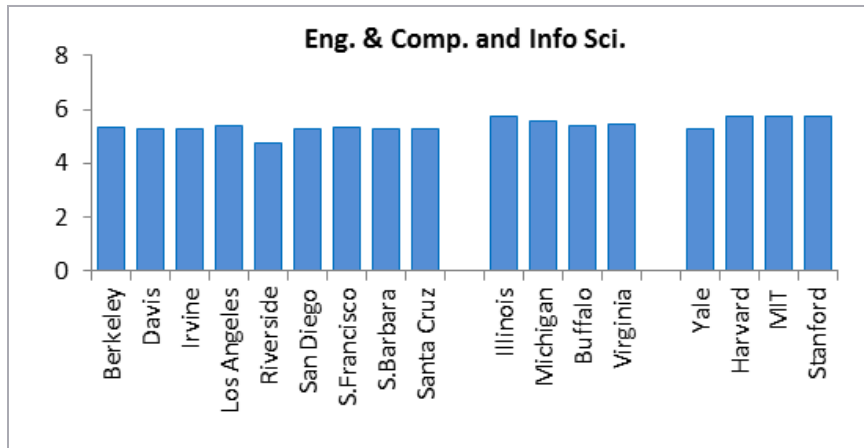
UC Doctoral Completion Rate Comparison:
Ten-Yr Rates by Campus and Broad Field
Fall 1988-90, 1992-94, and 1996-98 Entry Cohorts
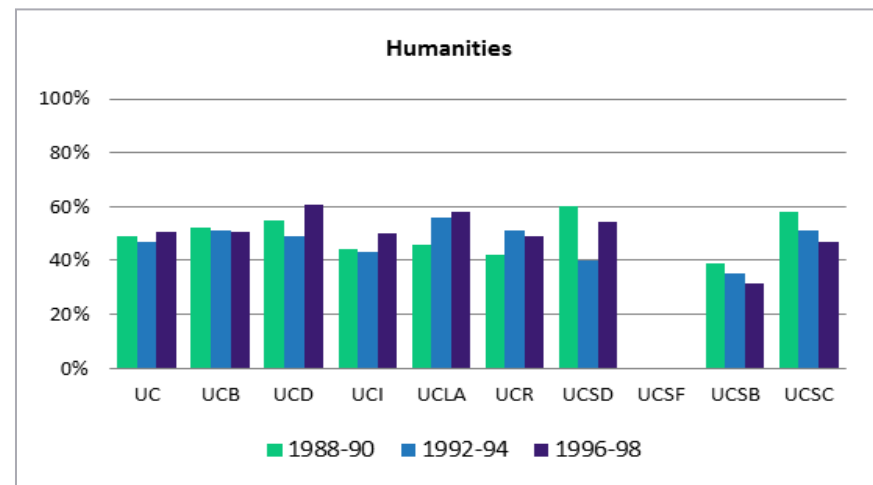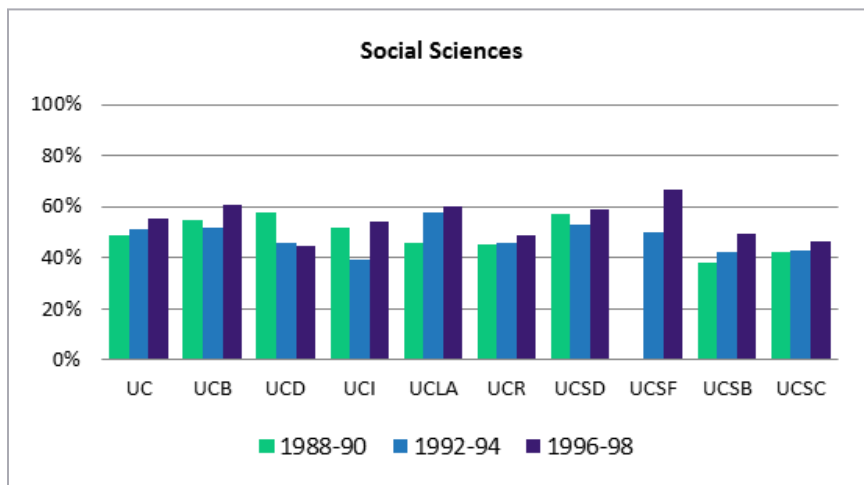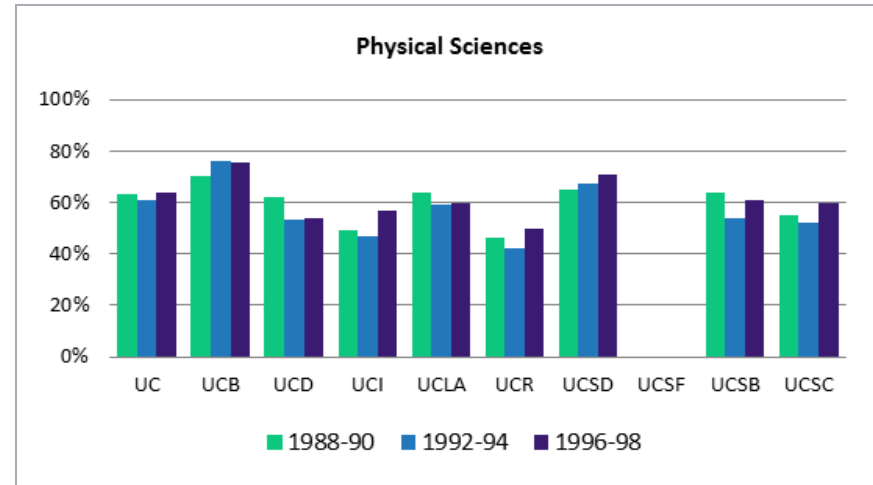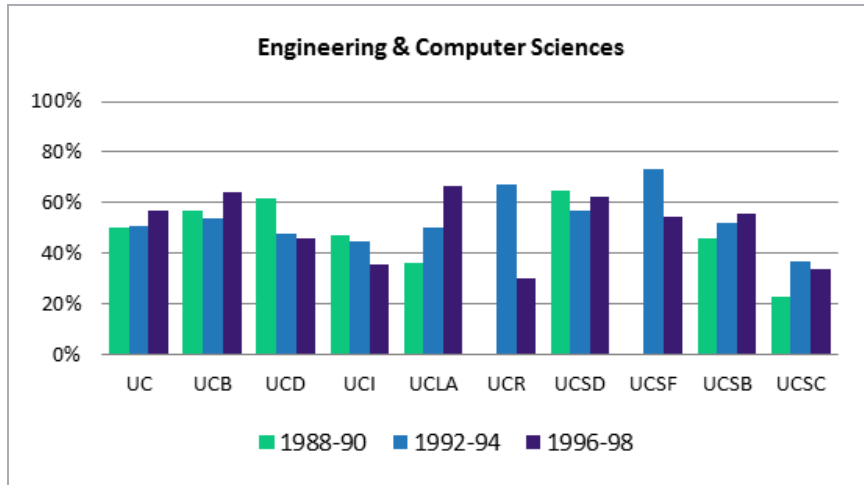
UC Doctoral Completion Rate Comparison:
Ten-Yr Rates of Students who Advanced to Candidacy by Fall of 4th Yr Fall 1996, 97, and 98 Doctoral Entry Cohorts
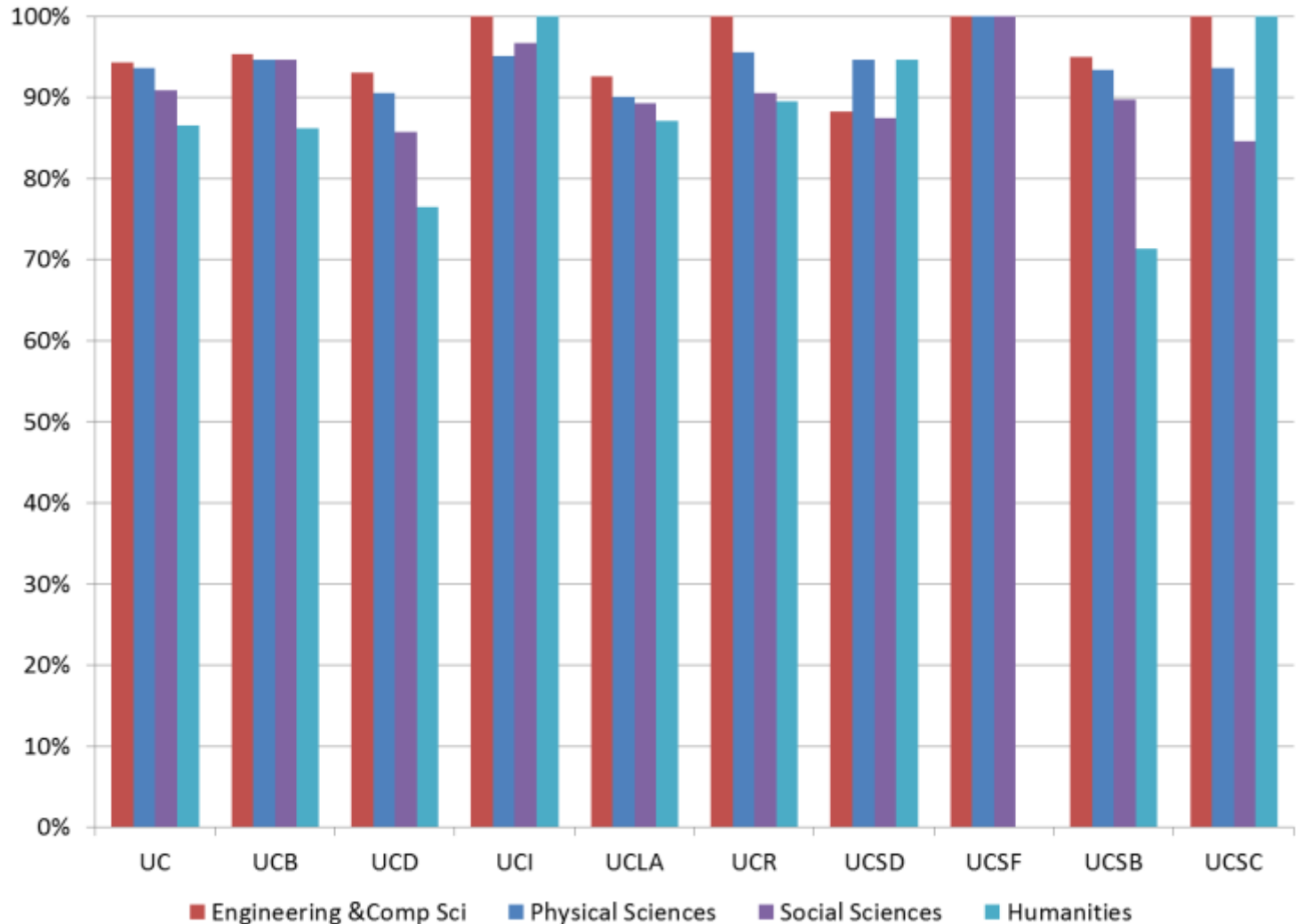
Program Enrollment Data

- ## Program Enrollment: By Student Type

Term	New Students	Continuing Students	Re-admitted Students	Total Enrollment
Fall 2008	15	110	1	126
Fall 2009	29	114	1	144
Fall 2010	17	120	1	138
Fall 2011	23	106	0	129

- ## Program Enrollment: By Degree Objective

Term	Ph.D.	Masters	Total Enrollment
Fall 2008	126	0	126
Fall 2009	144	0	144
Fall 2010	138	0	138
Fall 2011	128	1	129

Current Status | Rate of Progress | Time to Degree Data

Current Status by Entering Cohort

Entry Term	None	Other degree	PhD	Still in program	Grand Total
Fall 2002	0	2	9	0	11
Fall 2003	0	3	8	0	11
Fall 2004	1	3	2	1	7
Fall 2005	0	0	6	1	7
Fall 2006	3	4	4	0	11
Fall 2007	2	0	1	7	10
Fall 2008	2	1	0	7	10
Fall 2009	1	1	0	7	9
Fall 2010	4	0	0	6	10
Fall 2011	0	0	0	15	15

Current Status | Rate of Progress | Time to Degree Data

Master's Degrees: Overall, by Sex, and by Domestic Race/Ethnicity and International

Master's Degrees	All Graduates		Female		Male		African American		Native American		Asian American		Hispanic		Unknown		White		Int'l	
AY	#	Av TTD	#	Av TTD	#	Av TTD	#	Av TTD	#	Av TTD	#	Av TTD	#	Av TTD	#	Av TTD	#	Av TTD	#	Av TTD
2001-2002	10	2.85	2	3.60	8	2.01			1	1.71	1	5.49	1	0.48			6	3.28	1	1.21
2002-2003	16	2.28	8	1.90	8	2.35			1	1.21	1	2.21	3	1.96	1	1.71	8	2.40	2	1.59
2003-2004	20	2.94	5	3.91	15	2.27					2	5.08			2	2.84	14	2.69	2	2.46
2004-2005	19	1.63	9	1.27	10	2.24					1	0.29	1	1.49	7	2.10	9	1.84	1	2.95
2005-2006	26	2.08	9	1.67	17	2.13					2	2.22	1	2.49	5	2.39	14	1.85	4	2.31
2006-2007	29	2.62	10	2.24	19	2.54			1	5.71	2	1.48	1	2.21	6	2.57	17	2.69	2	1.35
2007-2008	30	2.68	15	3.26	15	1.98	2	6.22			4	2.59	2	1.35	7	2.08	13	2.67	2	2.82
2008-2009	16	2.95	2	3.19	14	2.76					1	2.21	3	2.02	1	5.48	9	3.08	2	1.44
2009-2010	14	2.15	7	2.47	7	2.17					2	3.45			1	2.70	9	2.10	2	1.96
2010-2011	19	2.65	9	2.58	10	3.09					1	3.47	1	1.48	4	2.76	13	2.52		

Current Status | Rate of Progress | Time to Degree Data

Doctoral Degrees: Overall, by Sex, and by Domestic Race/Ethnicity and International

Doctoral Degrees	All Graduates		Female		Male		African American		Asian American		Hispanic		Unknown		White		Int'l	
AY	#	Av TTD	#	Av TTD	#	Av TTD	#	Av TTD	#	Av TTD	#	Av TTD	#	Av TTD	#	Av TTD	#	Av TTD
2001-2002	6	4.97	5	4.97	1	2.21							1	7.96	4	4.85	1	2.21
2002-2003	18	5.75	8	5.90	10	5.41			1	6.96			2	3.47	11	5.85	4	4.67
2003-2004	14	6.24	4	5.29	10	6.52									10	7.12	4	4.09
2004-2005	10	5.83	3	6.60	7	5.13					1	4.22			5	6.21	4	4.34
2005-2006	23	4.76	5	4.37	18	5.58	1	2.72					2	2.21	7	6.04	13	5.31
2006-2007	19	4.62	4	5.42	15	4.68	1	4.72					4	5.75	10	4.58	4	5.47
2007-2008	20	4.38	9	4.21	11	4.95	1	4.71	1	5.71			6	3.48	8	4.52	4	4.84
2008-2009	30	5.30	14	5.22	16	5.92	1	6.71	2	4.95	1	5.21	5	7.17	13	5.82	8	4.33
2009-2010	22	5.54	7	5.75	15	5.81			2	4.32			5	4.96	11	6.33	4	5.45
2010-2011	30	5.59	12	5.40	18	5.68			3	5.01			4	5.78	16	5.54	7	4.77

In Closing...

- **Opportunities and challenges in using quantitative data**
  - **Identifying and choosing metrics – many data available**
  - **Lack of common definitions**
  - **Difficulty identifying reference values (norms vs. goals)**

- **Limited availability of public-use benchmark data**
  - **Robust and consistent datasets**
  - **Groups of institutions vs. specific institutions**

- **Quality of Program Ranking Surveys**
  - **Lengthy delay between NRC Assessments**
  - **Methodology questions regarding more frequent surveys, e.g. US News & World Reports (opinion vs. data)**