Andrew Do Doctoral Thesis

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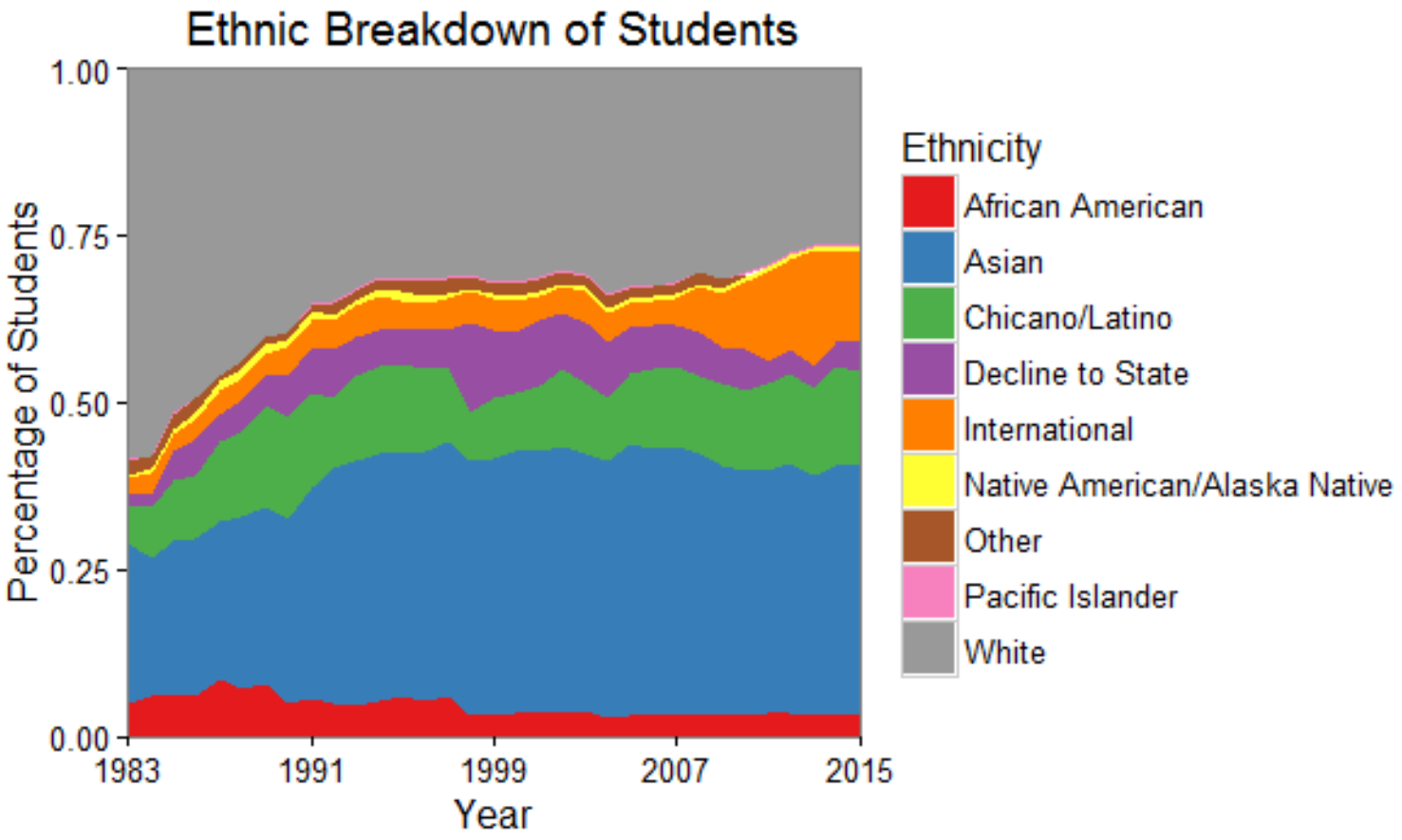
Introduction

- Cal Answers
- Graduation, GPAs, Applicant Data

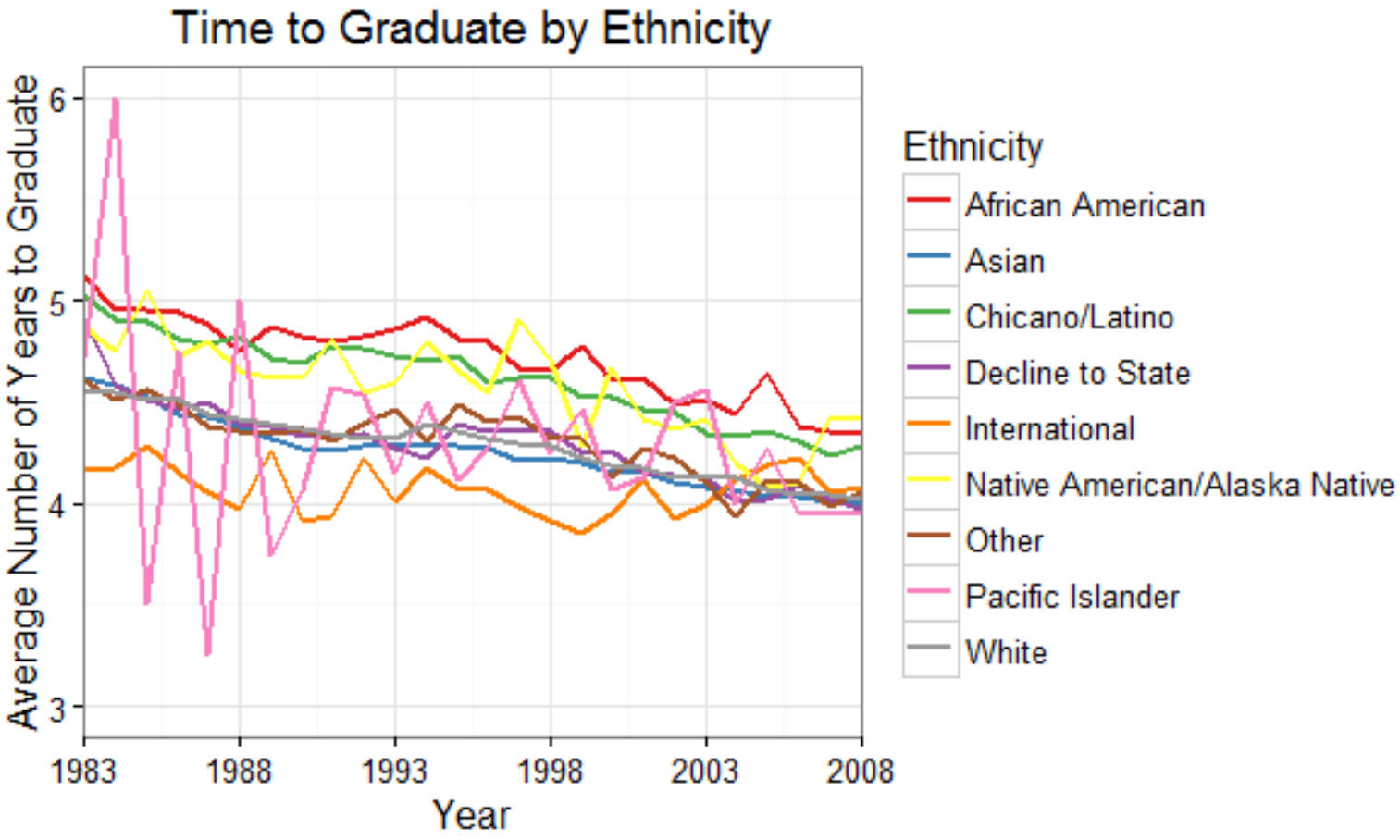
How We Dealt with the Data

- Data came from the Cal Answers website http://calanswers.berkeley.edu (requires a Berkeley login or permission from the school)
- Cal Answers is composed of various Dashboards, which can be exported into .csv files
- While getting the data into a table is easy, the data needs to be wrangled before any interesting trends show up

Ethnic Makeup of Berkeley



How Fast are People Graduating?



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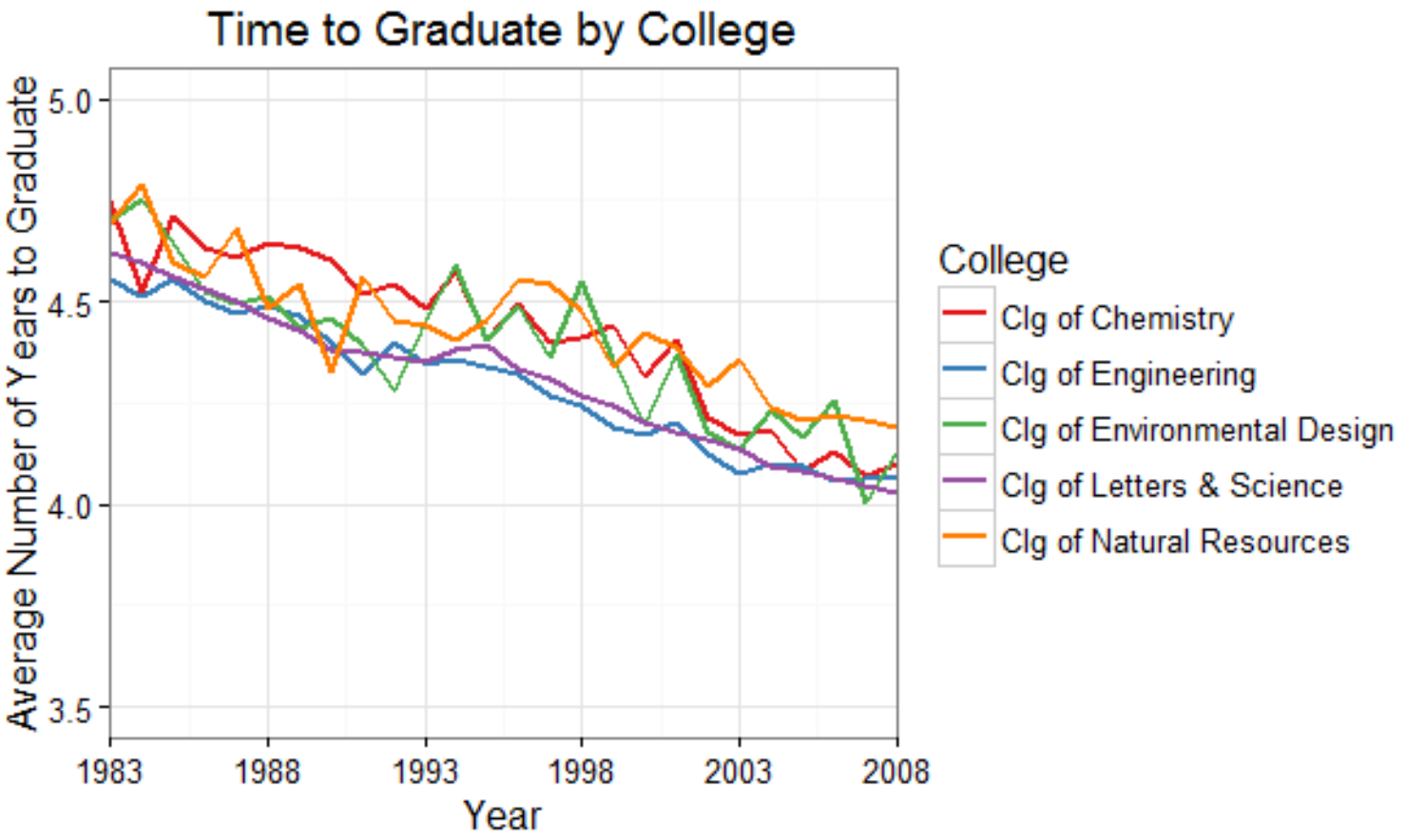

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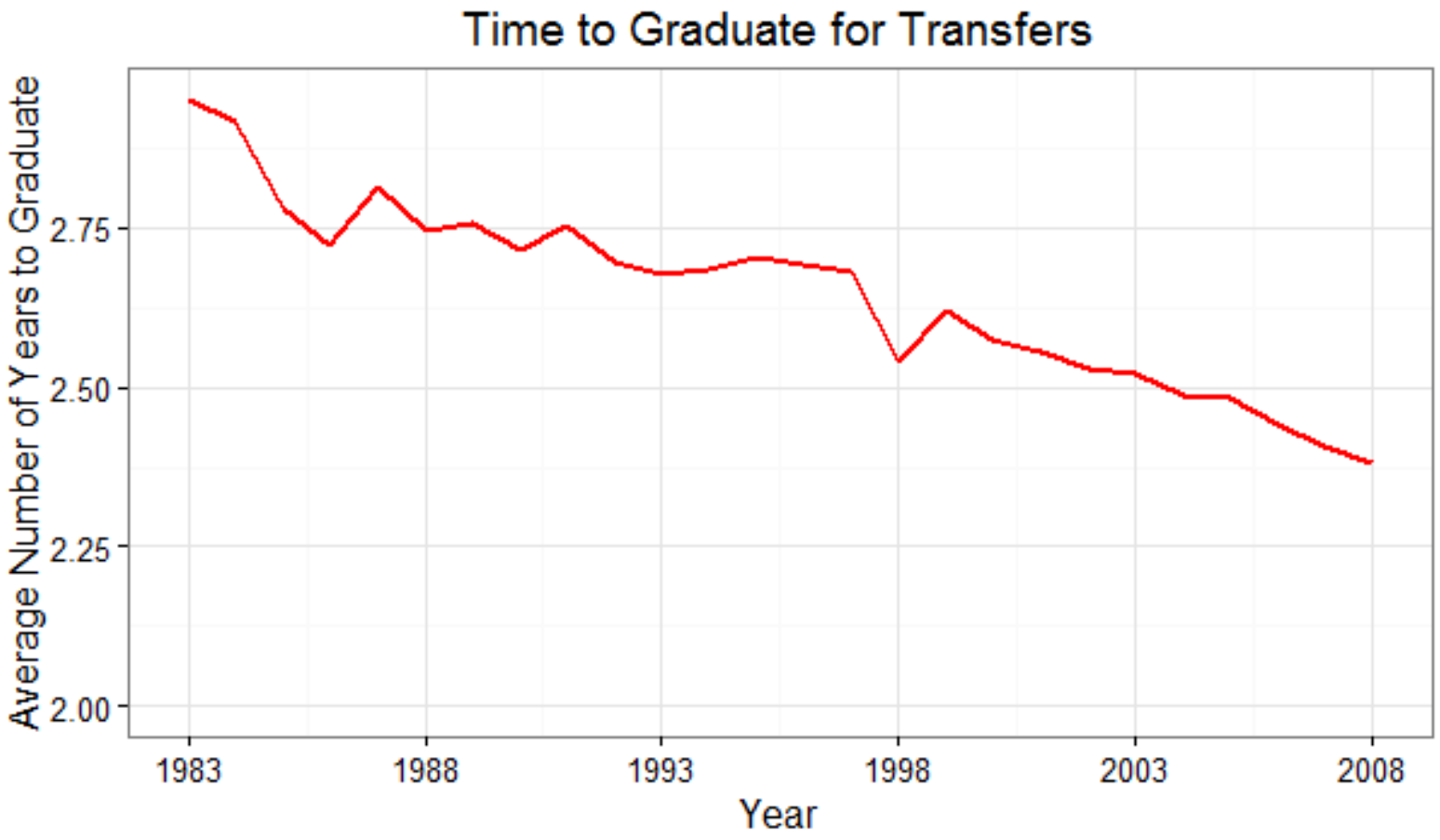
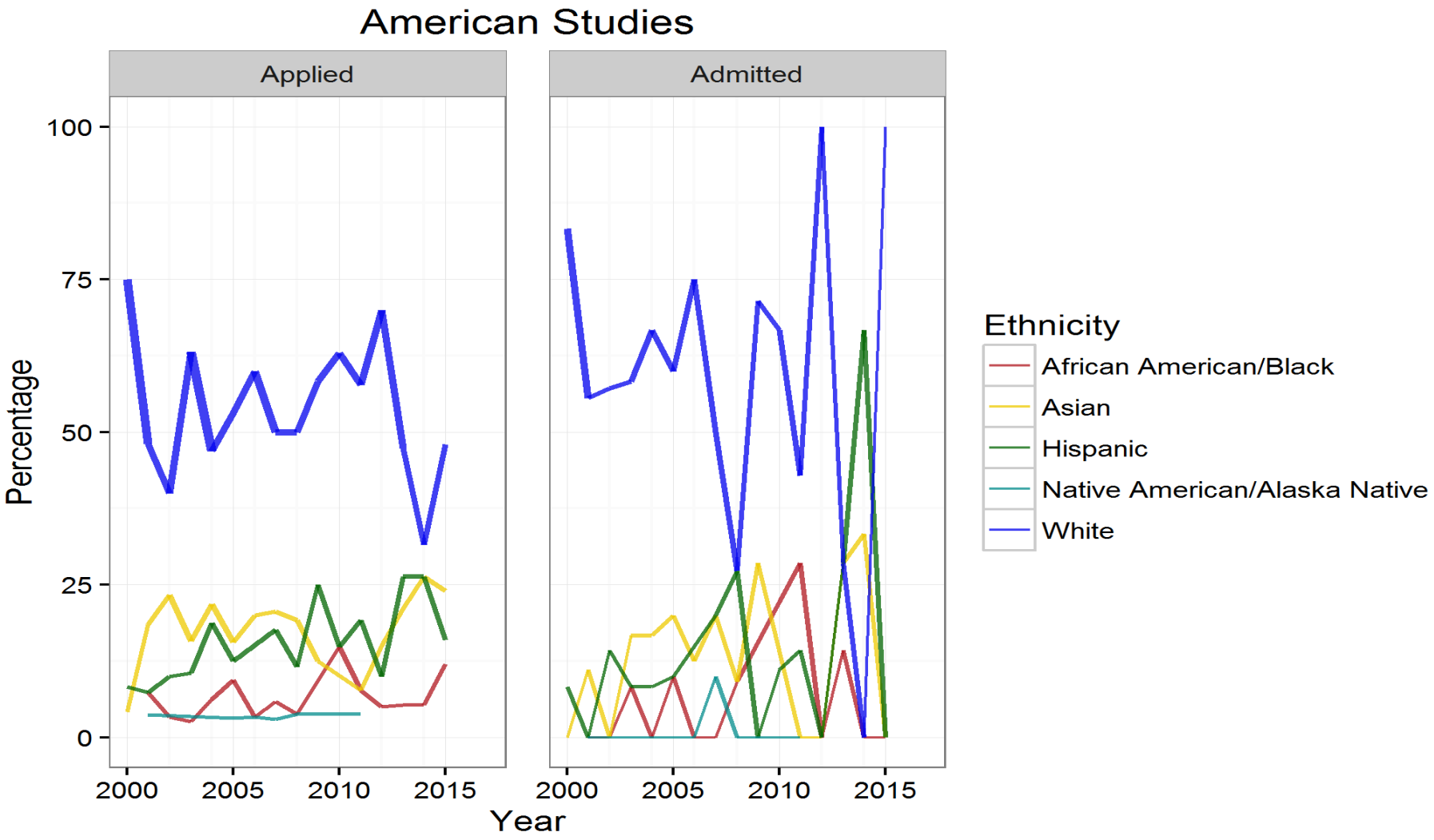
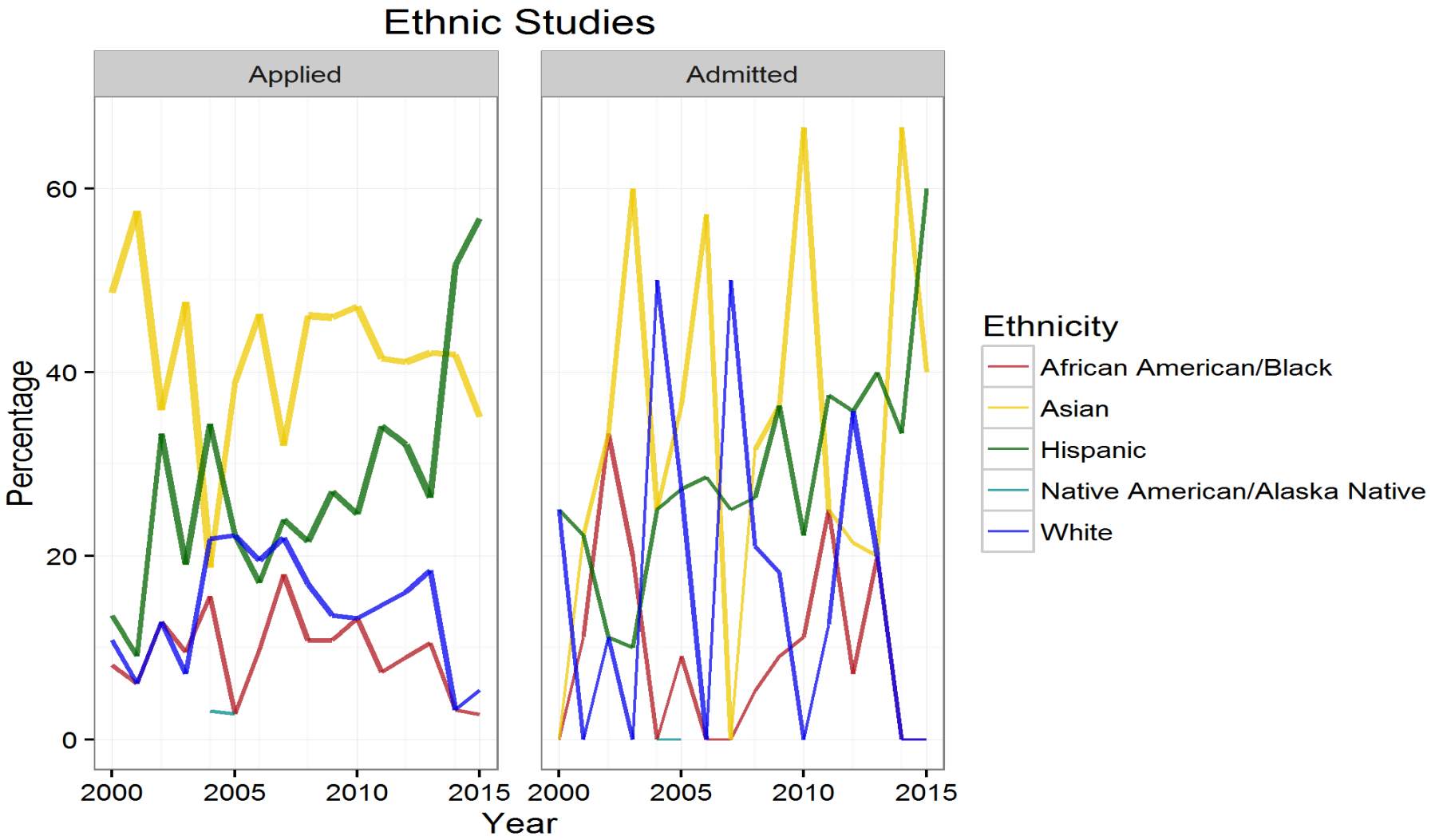


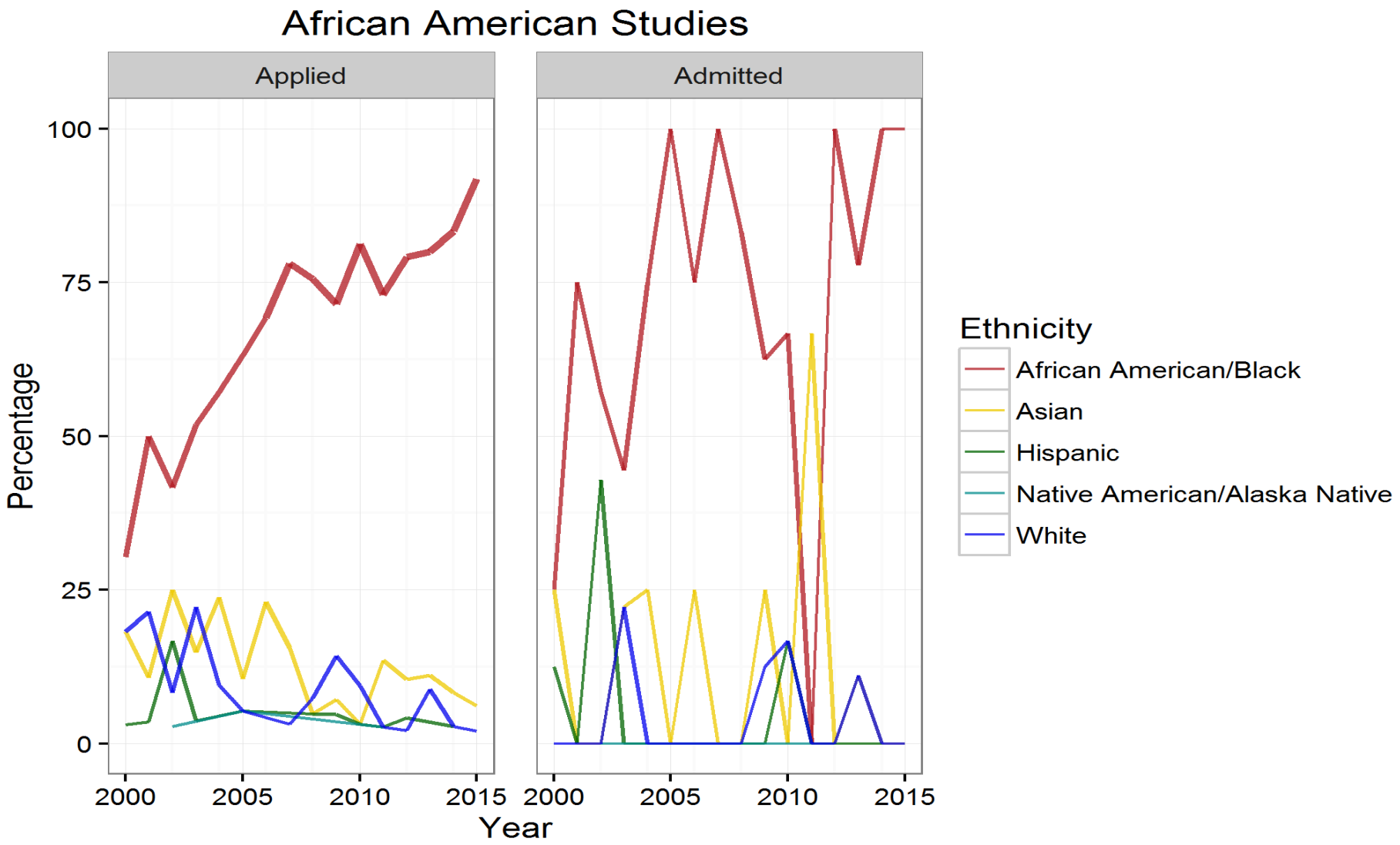
Who's Studying American Studies?



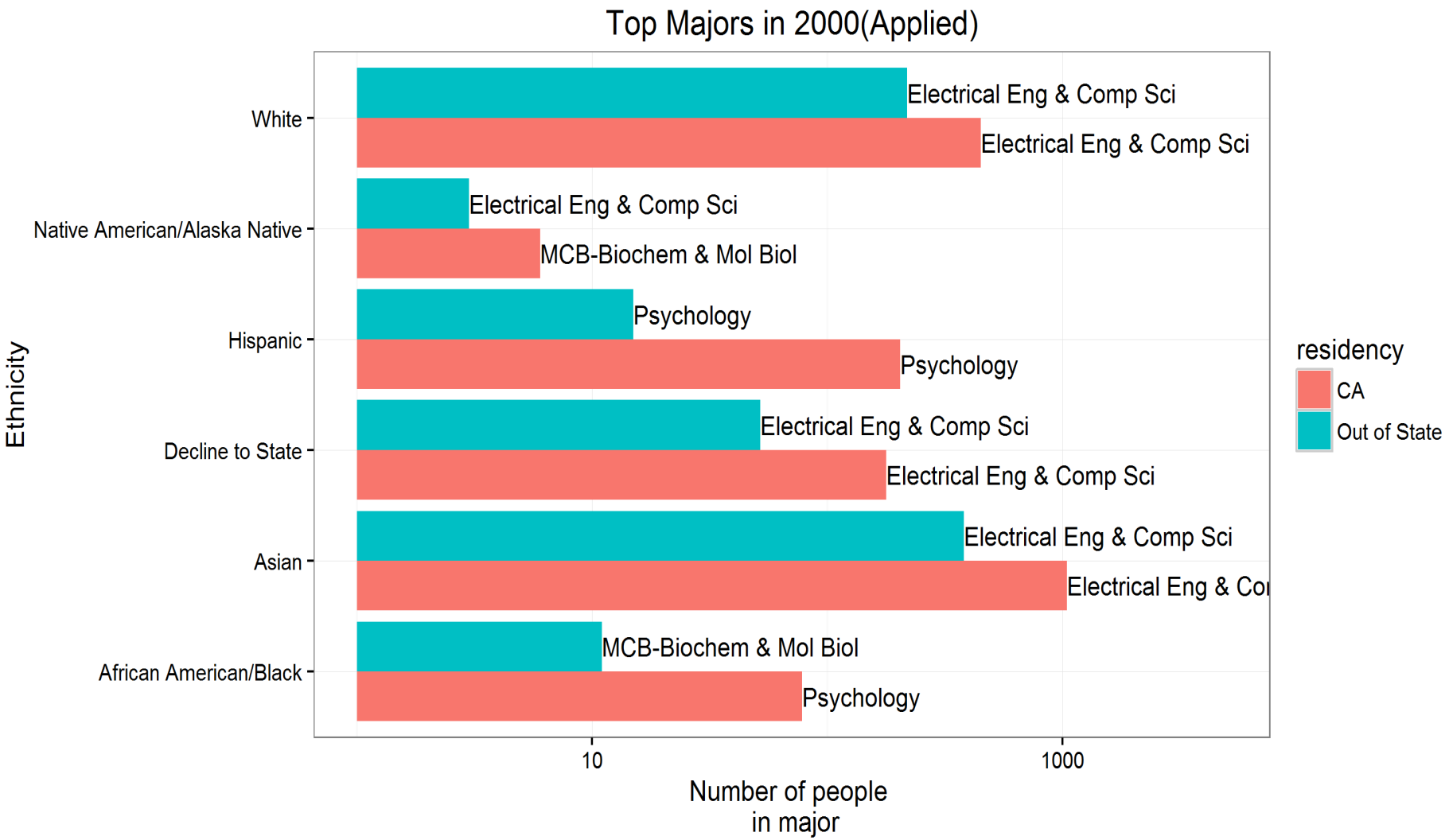
Who's Studying Ethnic Studies?



Vs African American Studies



Top Majors


Top Majors in 2000(Applied)
White
Native American/Alaska Native
Hispanic
Decline to State
Asian
African American/Black
Ethnicity
Electrical Eng & Comp Sci
Electrical Eng & Comp Sci
Electrical Eng & Comp Sci
MCB-Biochem & Mol Biol
Psychology
Psychology
Electrical Eng & Comp Sci
Electrical Eng & Comp Sci
Electrical Eng & Comp Sci
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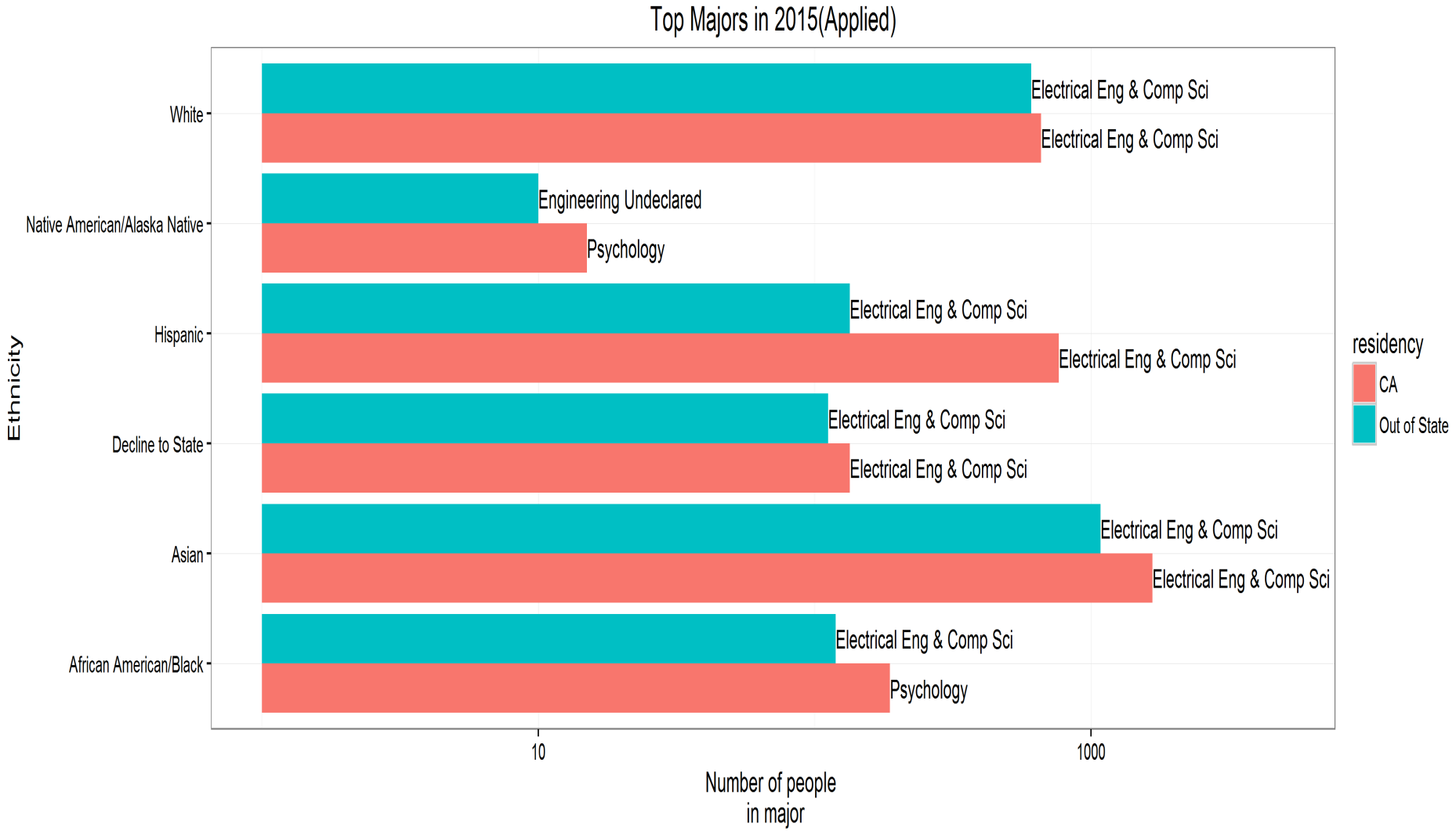
MCB-Biochem & Mol Biol
Psychology
10
1000
Number of people in major
residency
CA
Out of State

Top Majors

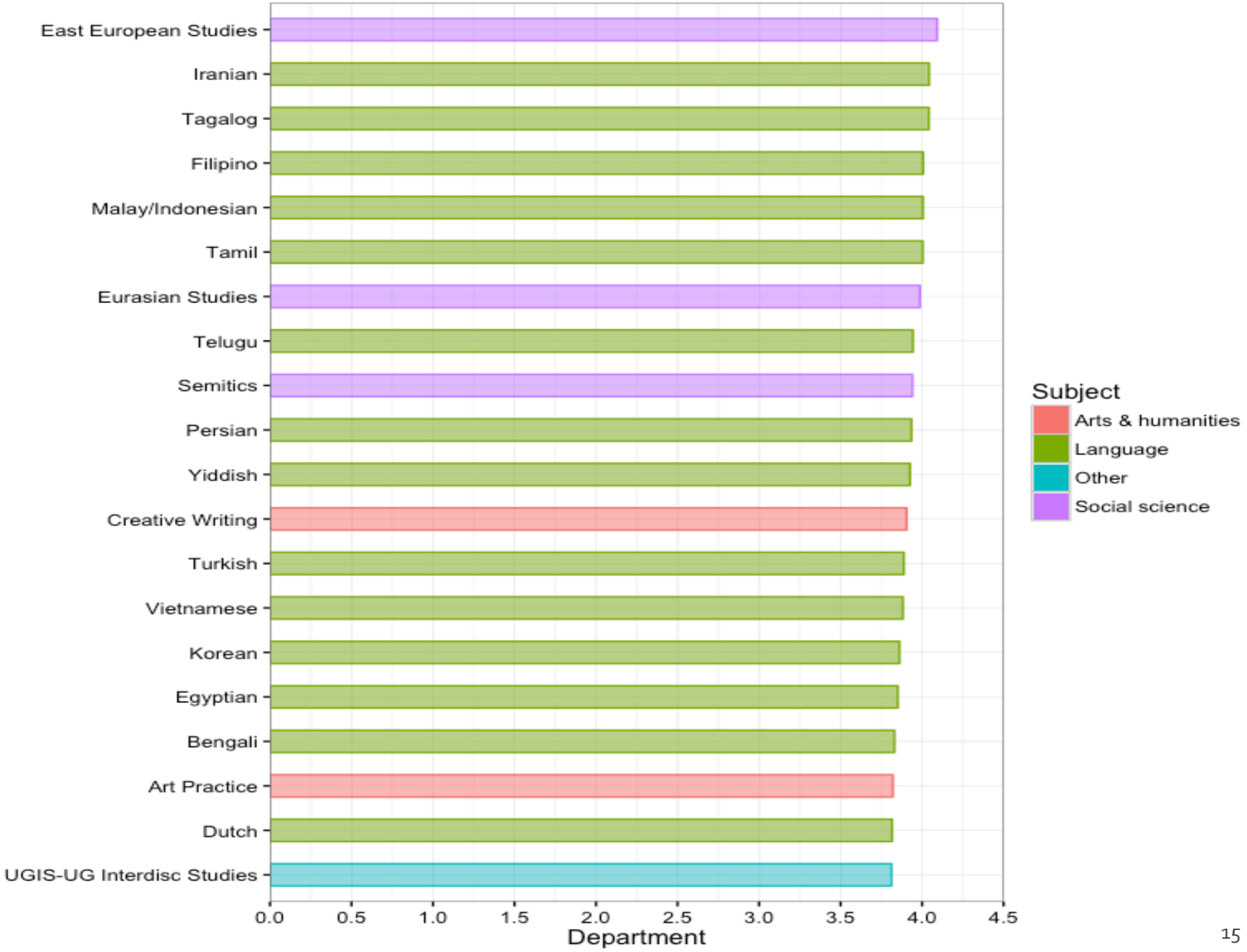

Top Majors in 2015(Applied)
White
Native American/Alaska Native
Hispanic
Decline to State
Asian
African American/Black
Ethnicity
Electrical Eng & Comp Sci
Electrical Eng & Comp Sci
Engineering Undeclared
Psychology
Electrical Eng & Comp Sci
Electrical Eng & Comp Sci
Electrical Eng & Comp Sci
Electrical Eng & Comp Sci
Electrical Eng & Comp Sci
Electrical Eng & Comp Sci
Electrical Eng & Comp Sci
Psychology
10
1000
Number of people in major
residency
CA
Out of State

Departments with Lowest GPAs

- GPA calculation: A+ - 4.3 grade points
- Grades aggregated from 2010 school year to present (18 semesters, including summer)
- Biology 2.84, Statistics 2.88, Neuroscience 2.93, Mathematics 2.94, Physics 2.96
- Pass rate: Cuneiform 0.33, Biology 0.47, Sanskrit 0.5, Neuroscience 0.61
- What about highest GPAs?

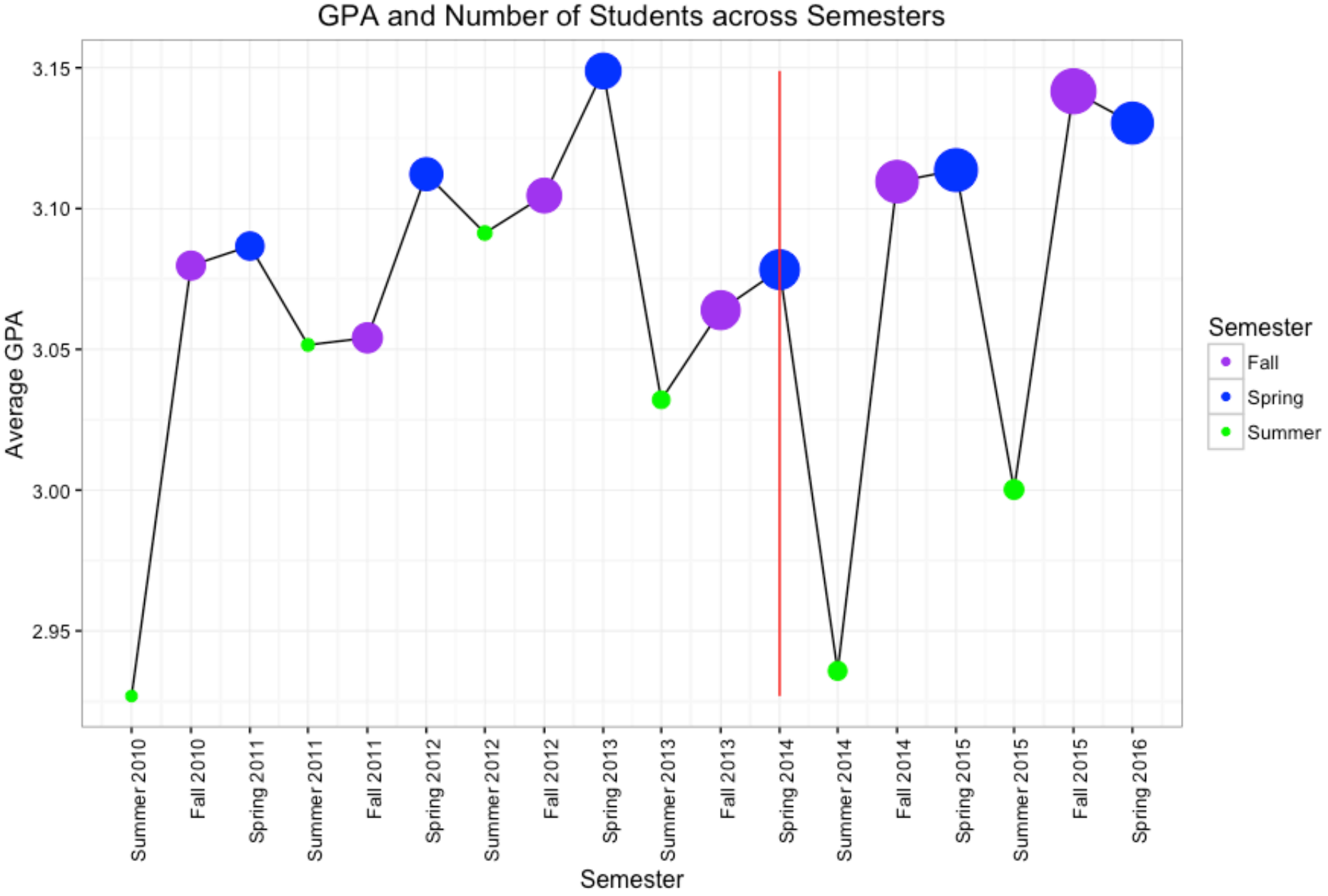
Departments with Highest GPAs

- Dominated by language departments
- Average class size across departments: 7826.204
- Filipino 1200, Korean 4278, Art Practice 7117
- Iranian 7, Creative Writing 39, Semitics 13

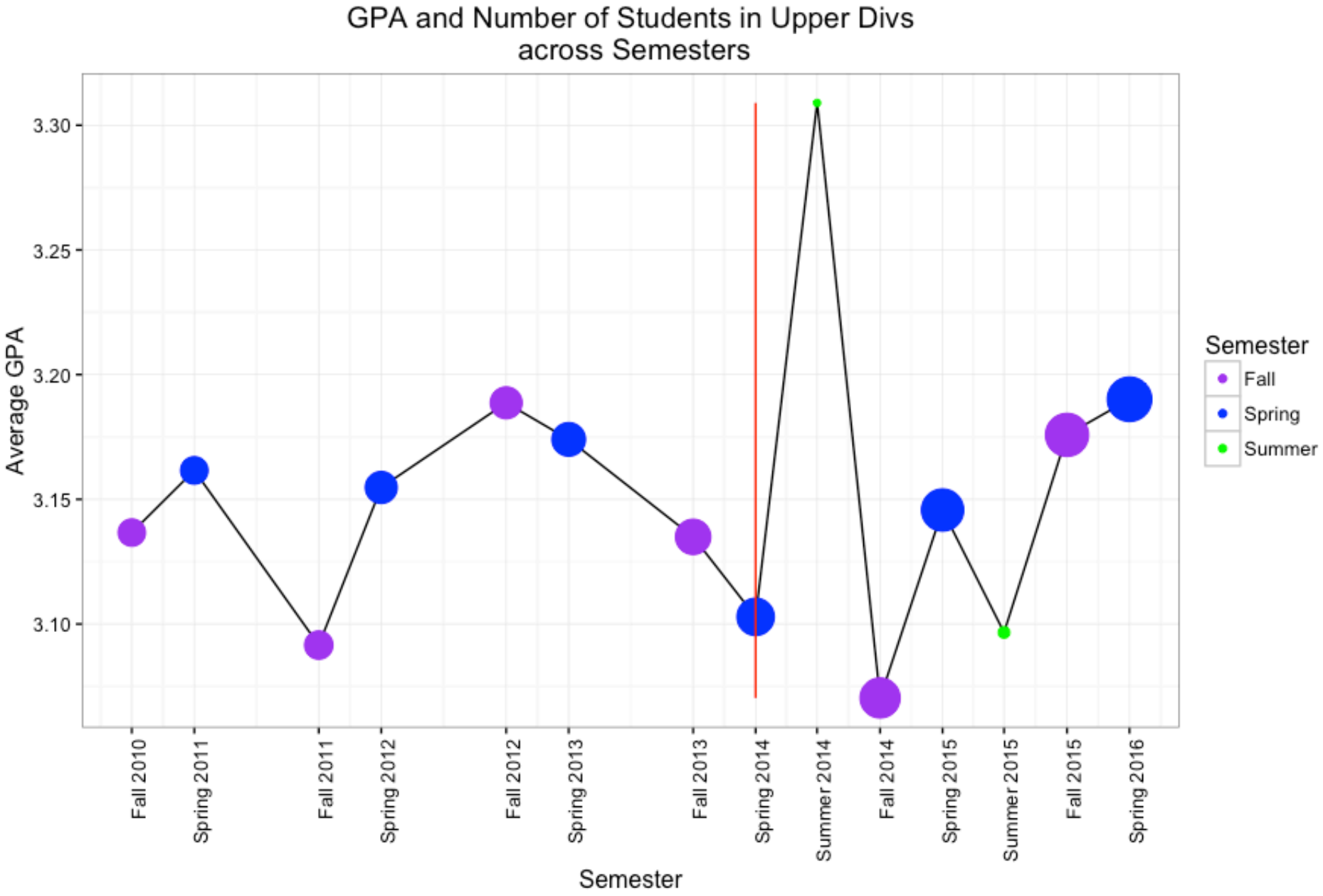

East European Studies
Iranian
Tagalog
Filipino
Malay/Indonesian
Tamil
Eurasian Studies
Telugu
Semitics
Persian
Yiddish
Creative Writing
Turkish
Vietnamese
Korean
Egyptian
Bengali
Art Practice
Dutch
UGIS-UG Interdisc Studies
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
Department
Subject
Arts & humanities
Language
Other
Social science

Policy Changes: CS Dept

- CS 4th largest department
- GPA requirement has varied from 2.0 to 3.5+, with the late 80's and late 90's being the most competitive.
- After the dotcom bubble burst, numbers waned and the GPA was adjusted accordingly until it was removed altogether in 2007.
- Spring 2014-Fall 2015: 3.0 GPA cap



The red line represents when the GPA cap was implemented



The red line represents when the GPA cap was implemented

Conclusions

- Trends in the world economy can have an impact on who is admitted, what majors are chosen, and how fast people graduate
- The composition of intended majors can differ in terms of ethnic makeup.
- Policy changes are appropriate for limited resources and for growing student interest in computer science

Limitations

- While some Dashboards go as far back as 1983, some only contain a few years worth of data
- The data is split up over many tables, so it is not always possible to directly compare two variables with each other

Future Studies

- Access to the restricted data sets, incorporating data from outside sources, and finding other ways to categorize the student body would allow for a more full exploration of the questions that we addressed
- What do people think are the hardest/easiest (maybe say "highest/lowest grades") classes on campus? Within their major? How well does this match up with reality?
- What percentile do you need to be at to get a certain letter grade for a given class?