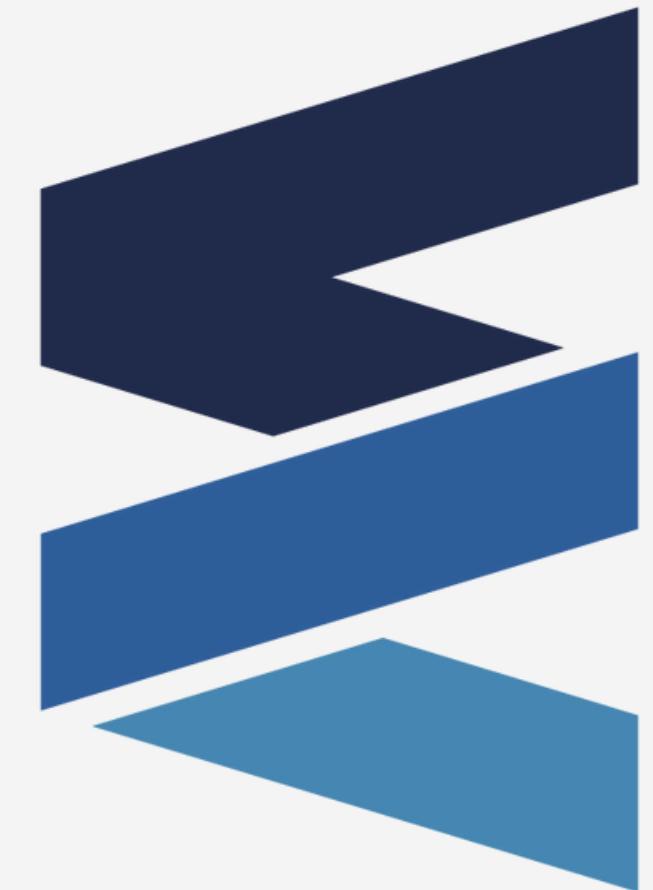


Jacobs Institute for Design Innovation

Visualizing Diversity & Inclusion Efforts

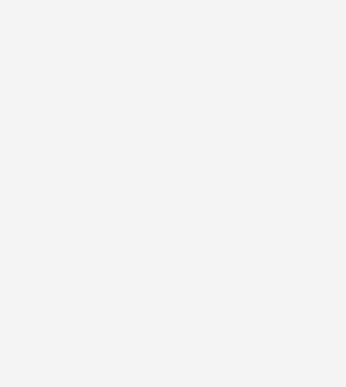
Data Discovery Program

May 3, 2021



EDGE IN TECH INITIATIVE
UNIVERSITY OF CALIFORNIA

Data Discovery Team



Alexandra Gómez
(she/her)
Data Science &
Ethnic Studies

Mein Lee
(she/her)
Data Science

Julie Hoang
(she/her)
Mechanical Engineering

Danji Liu
(he/him)
Computer Science &
Sociology

Mentors & Supporters

Jill Finlayson
Meg St. John
Erik Sandall
Andrew Eppig
Erin Kraemer



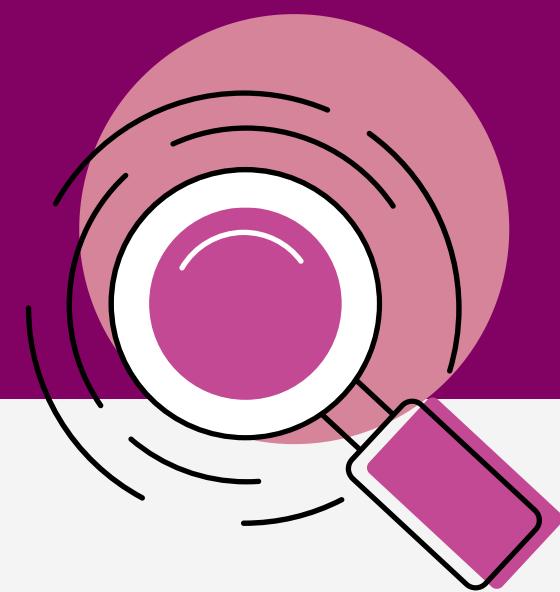
Louie Ortiz
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Data Science

Daniel Chung
(he/him)
Data Science

Janice Liu
(she/her)
Data Science

Paul Terrell-Perica
(he/him)
Data Science

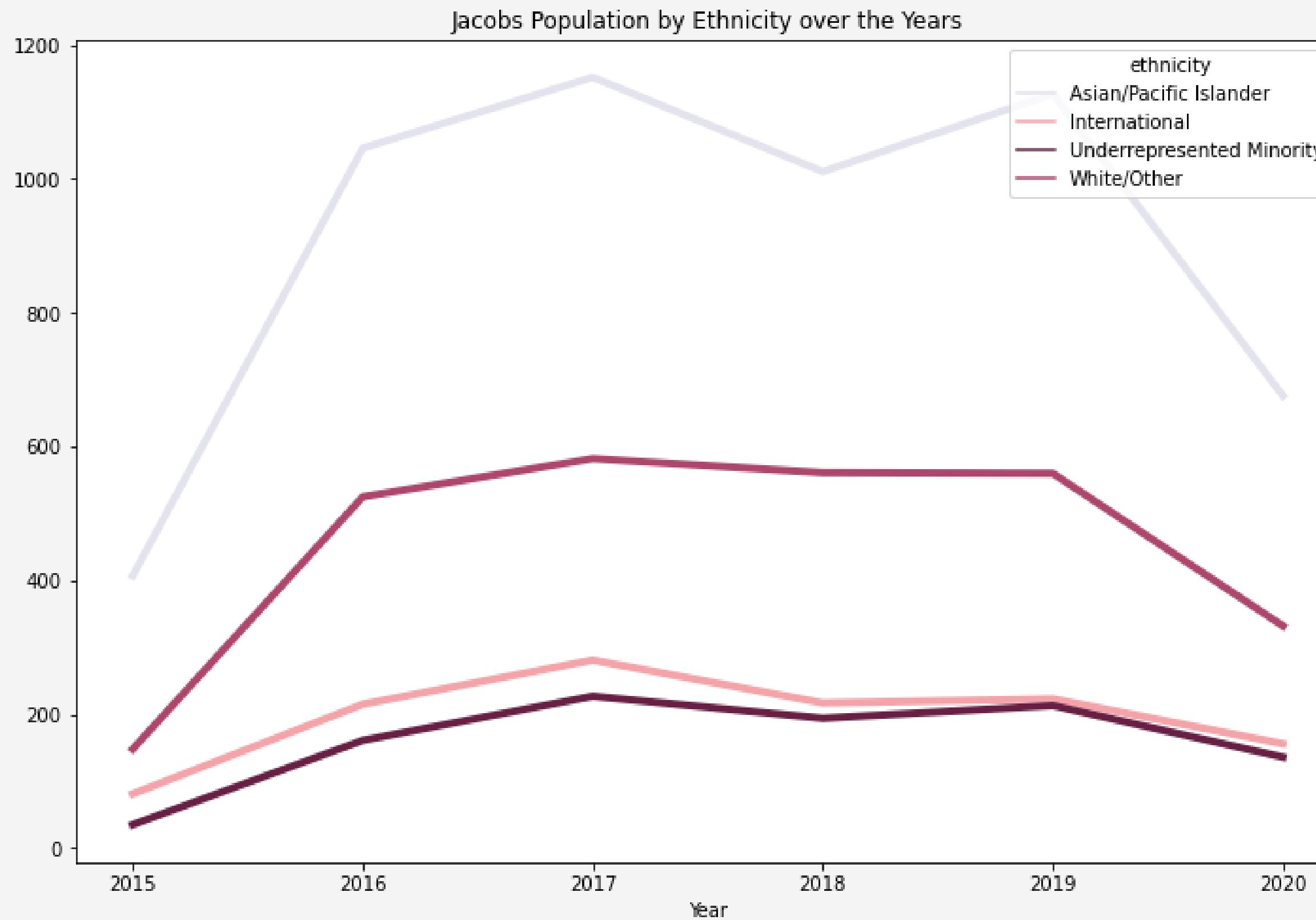
Jacobs Overall Questions



- 1 How diverse is Jacobs compared to the university as a whole? How has this changed over time?
- 2 Where and how are women and URMs currently participating?
- 3 Why is Jacobs different from the rest of the university and what opportunities exist to improve diversity?

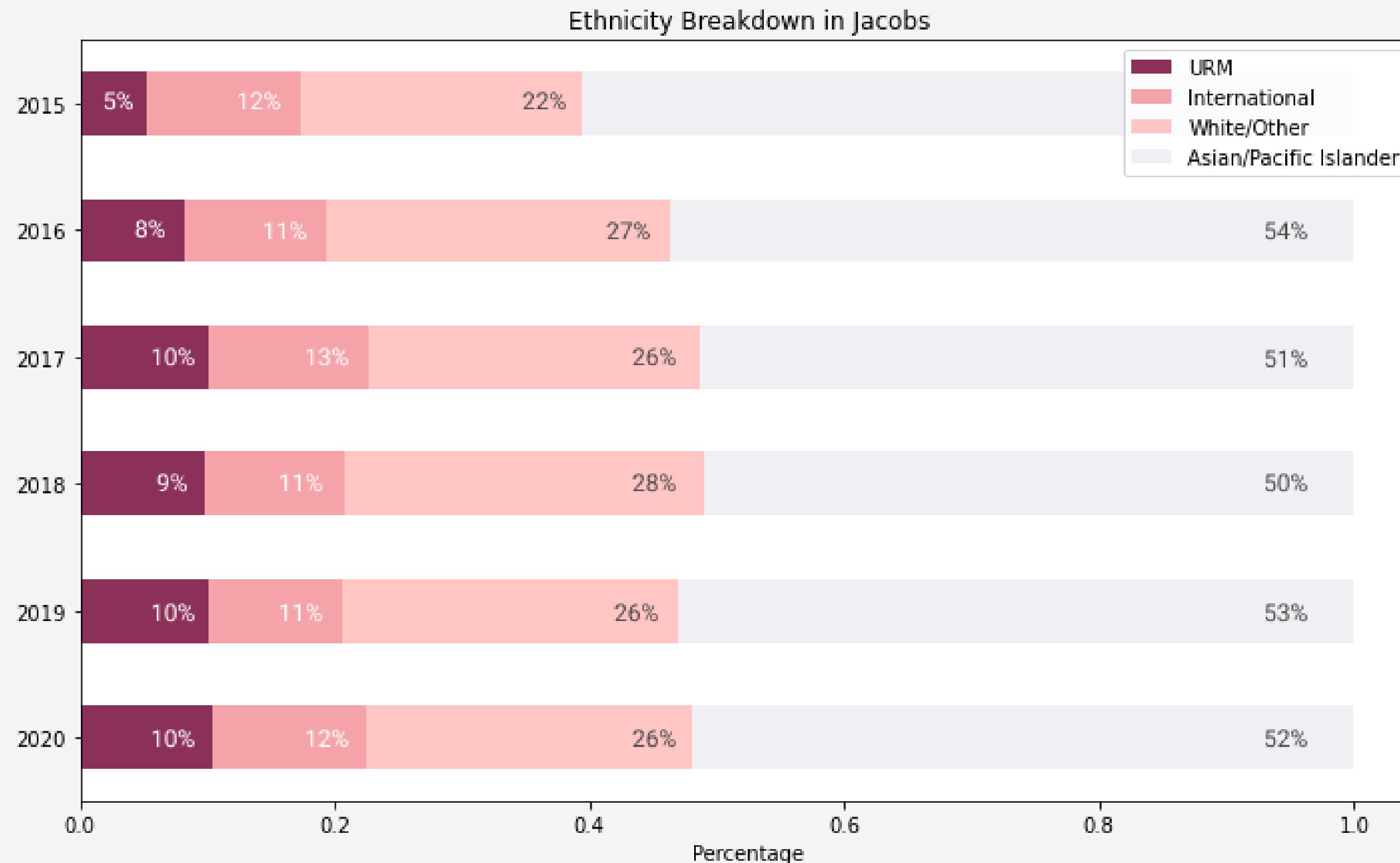
Student Count by Ethnicity in Jacobs

2015-2020

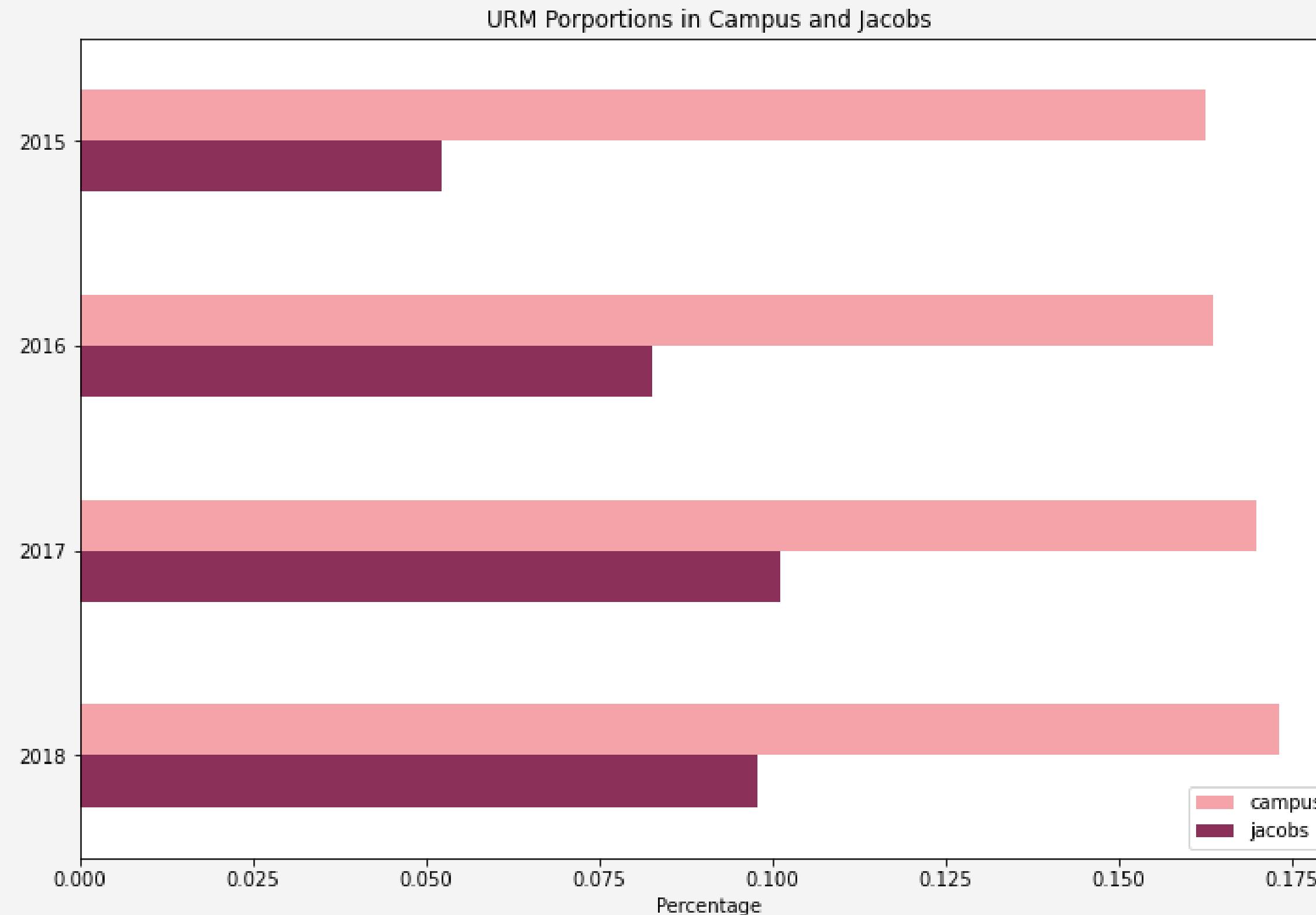


Ethnicity Composition in Jacobs

2015-2020



URM Representation Campus vs Jacobs



Women's Representation

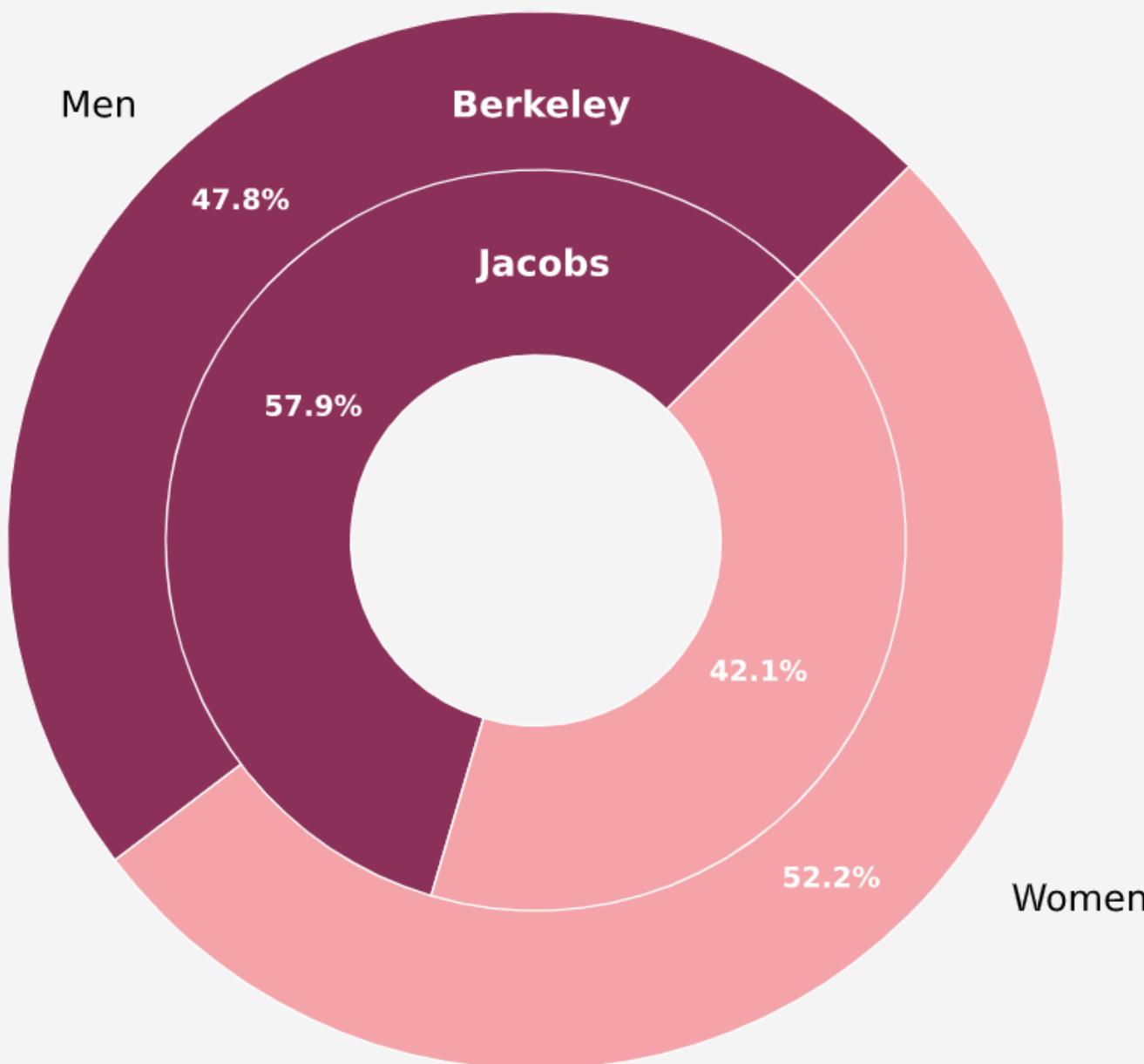
Across Berkeley and within Jacobs

n = 80,051 (Berkeley)

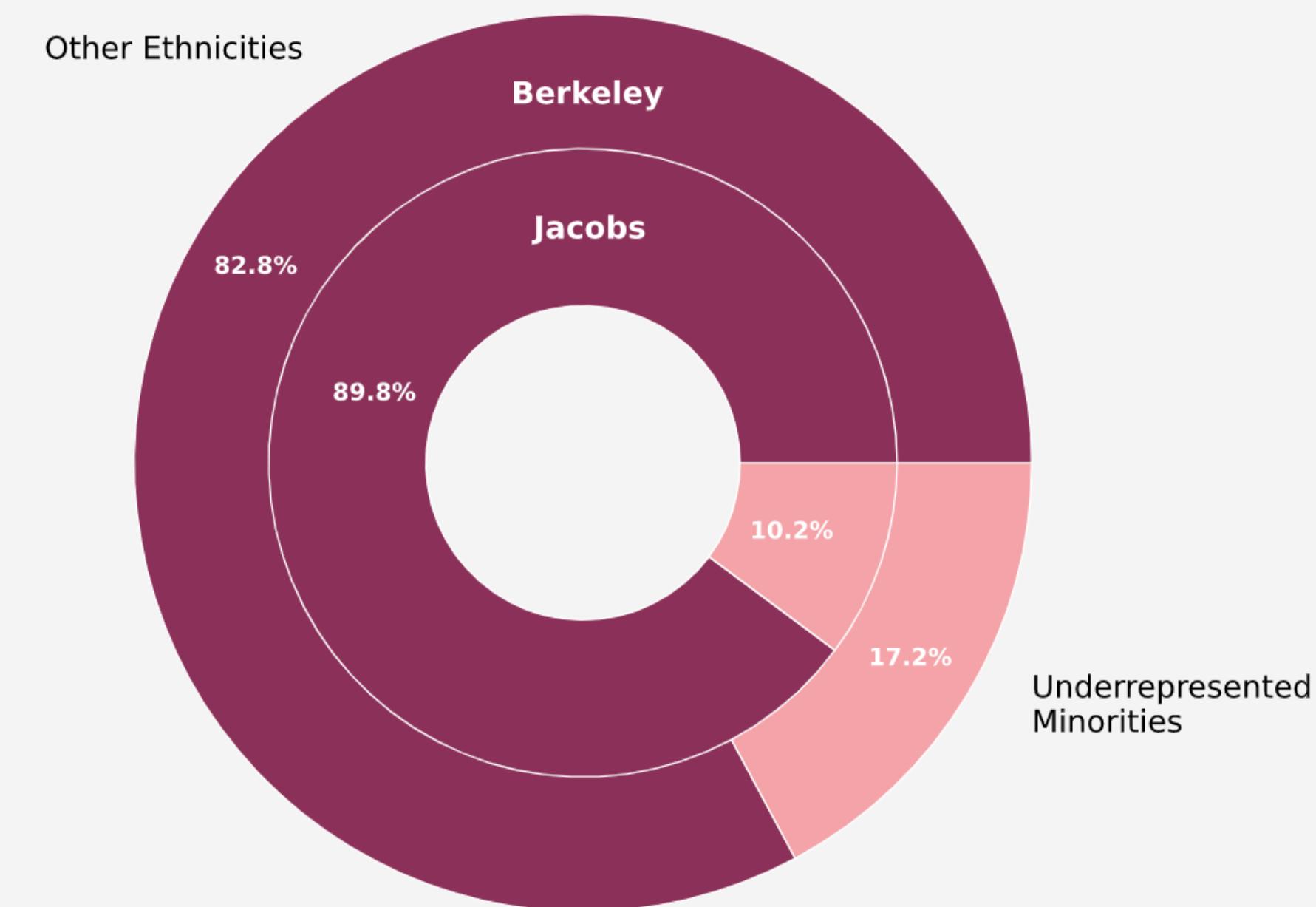
n = 5,391 (Jacobs)

URM's Representation

Women at Berkeley vs Jacobs



URMs at Berkeley vs Jacobs

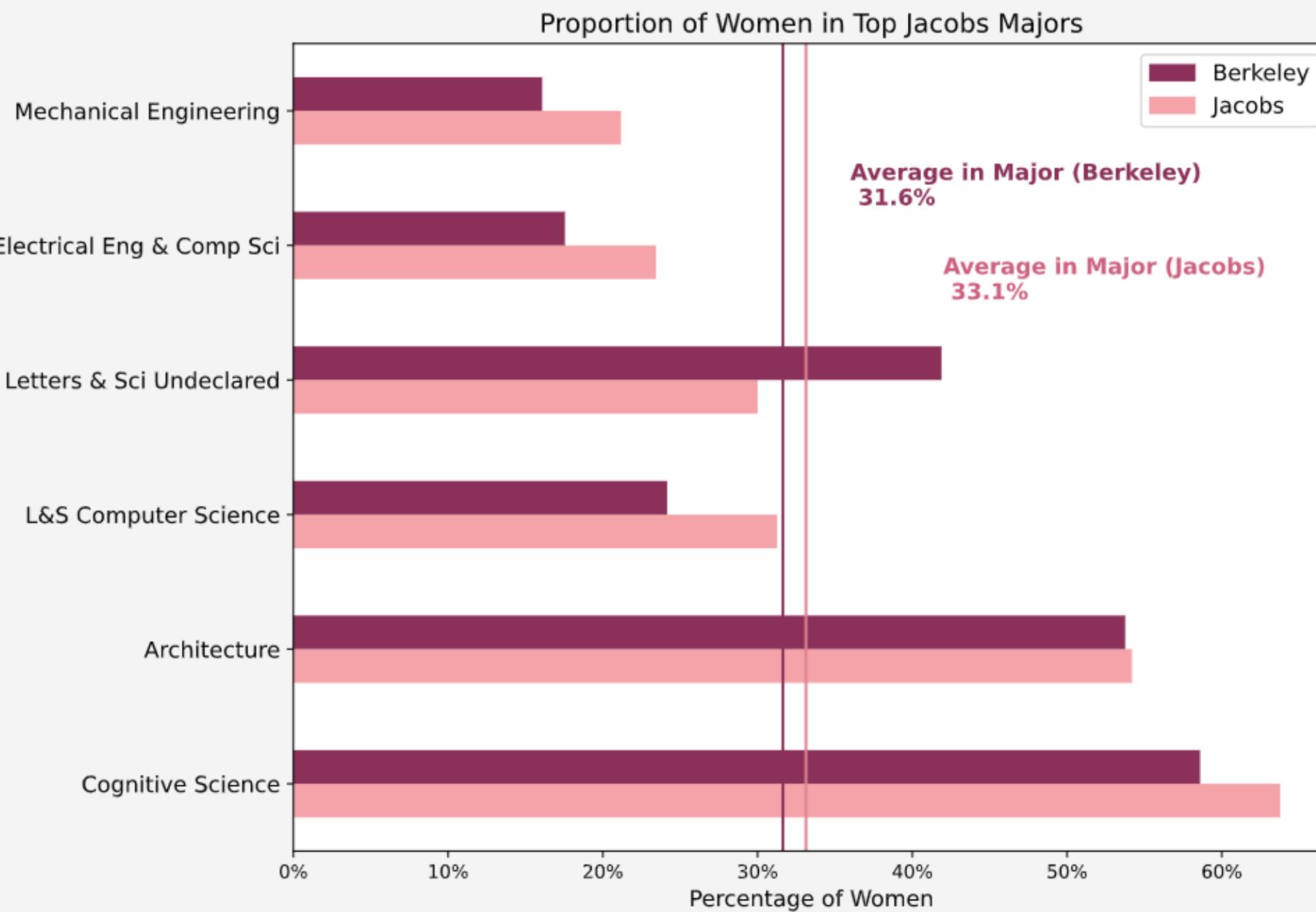


In Jacobs' Top Majors

Women

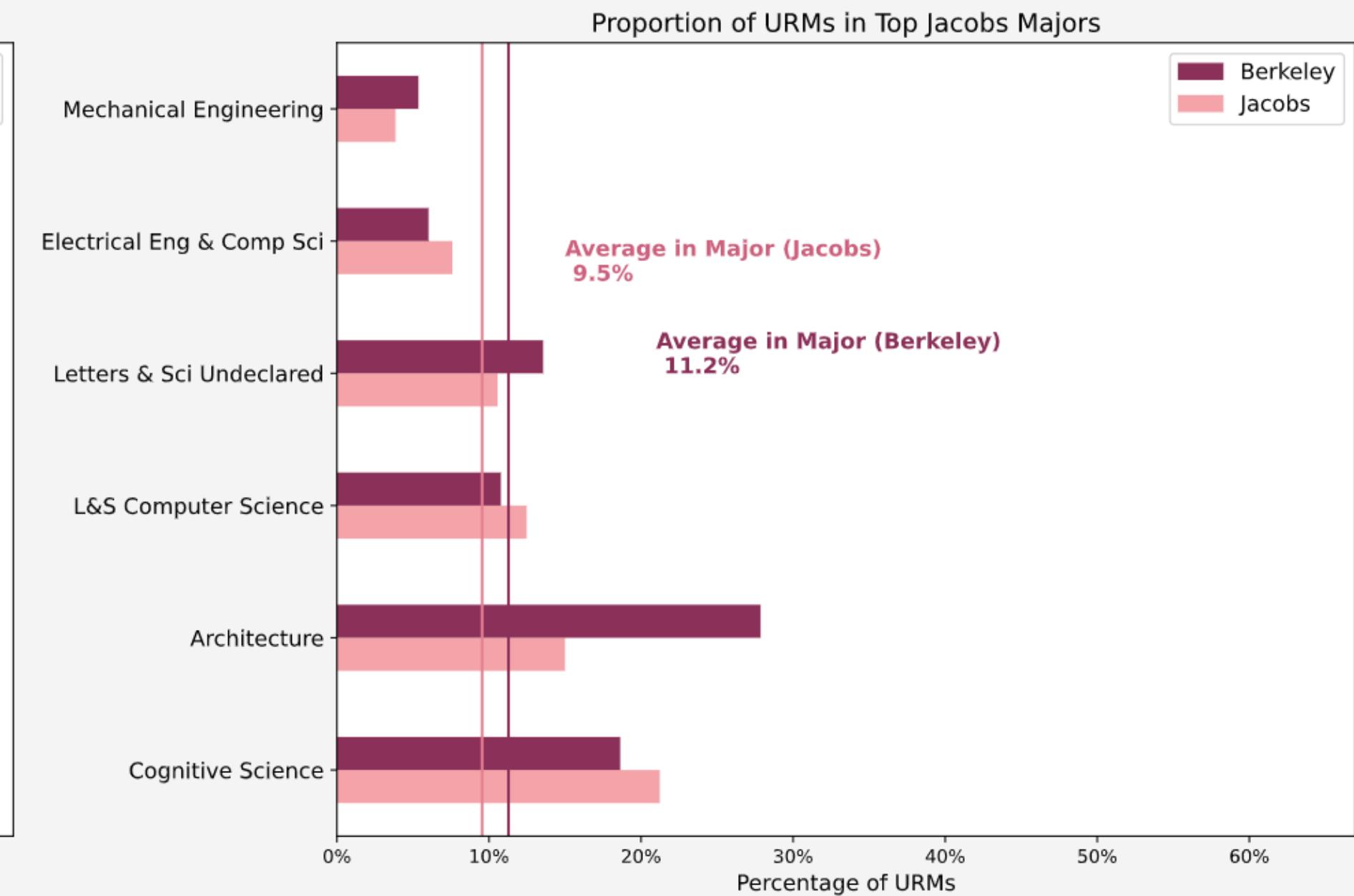
n = 7,852 (Berkeley)
n = 2,095 (Jacobs)

Women make up:
42.1% of Jacobs
52.2% of Berkeley



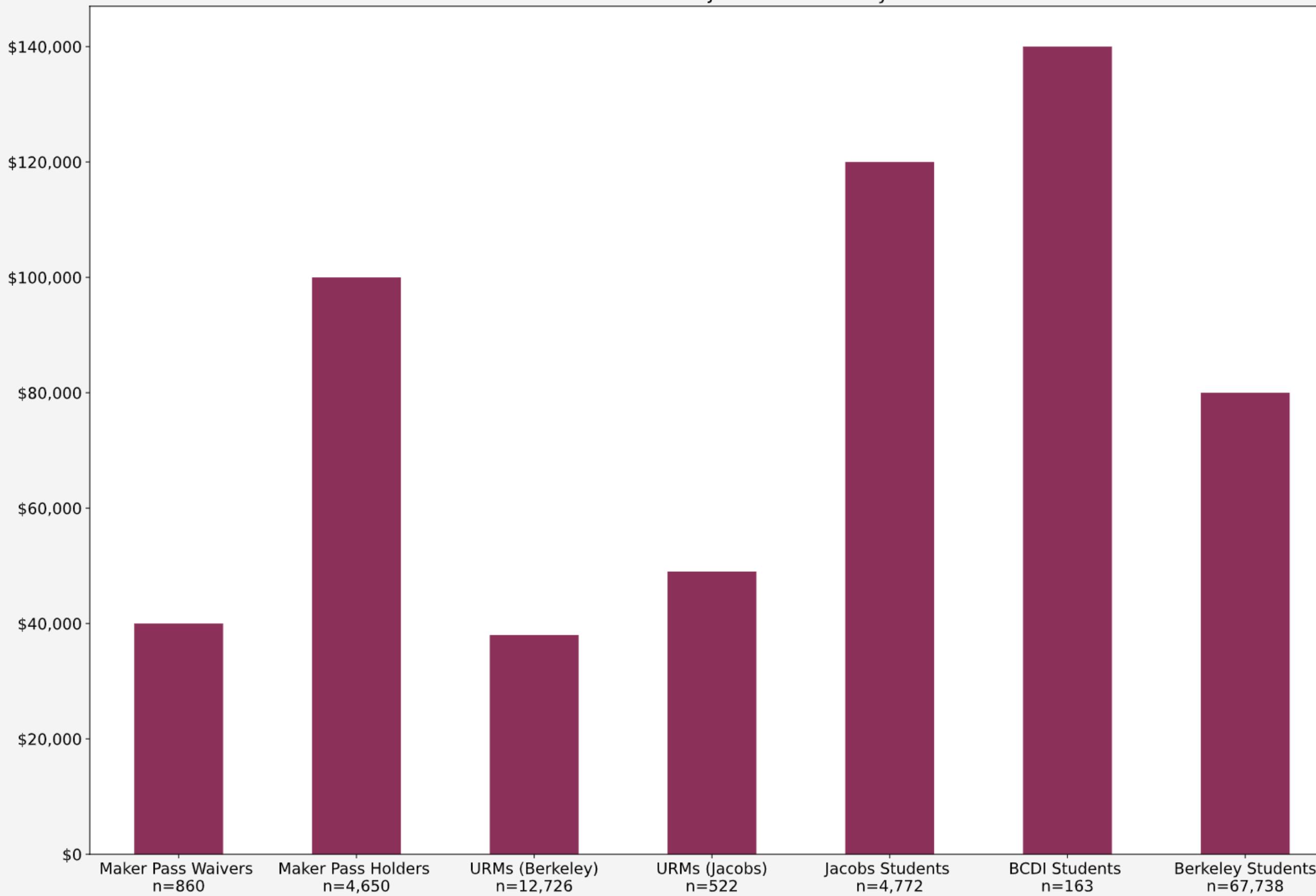
URMs

URMs make up:
10.2% of Jacobs
17.2% of Berkeley



Incomes Across Different Groups

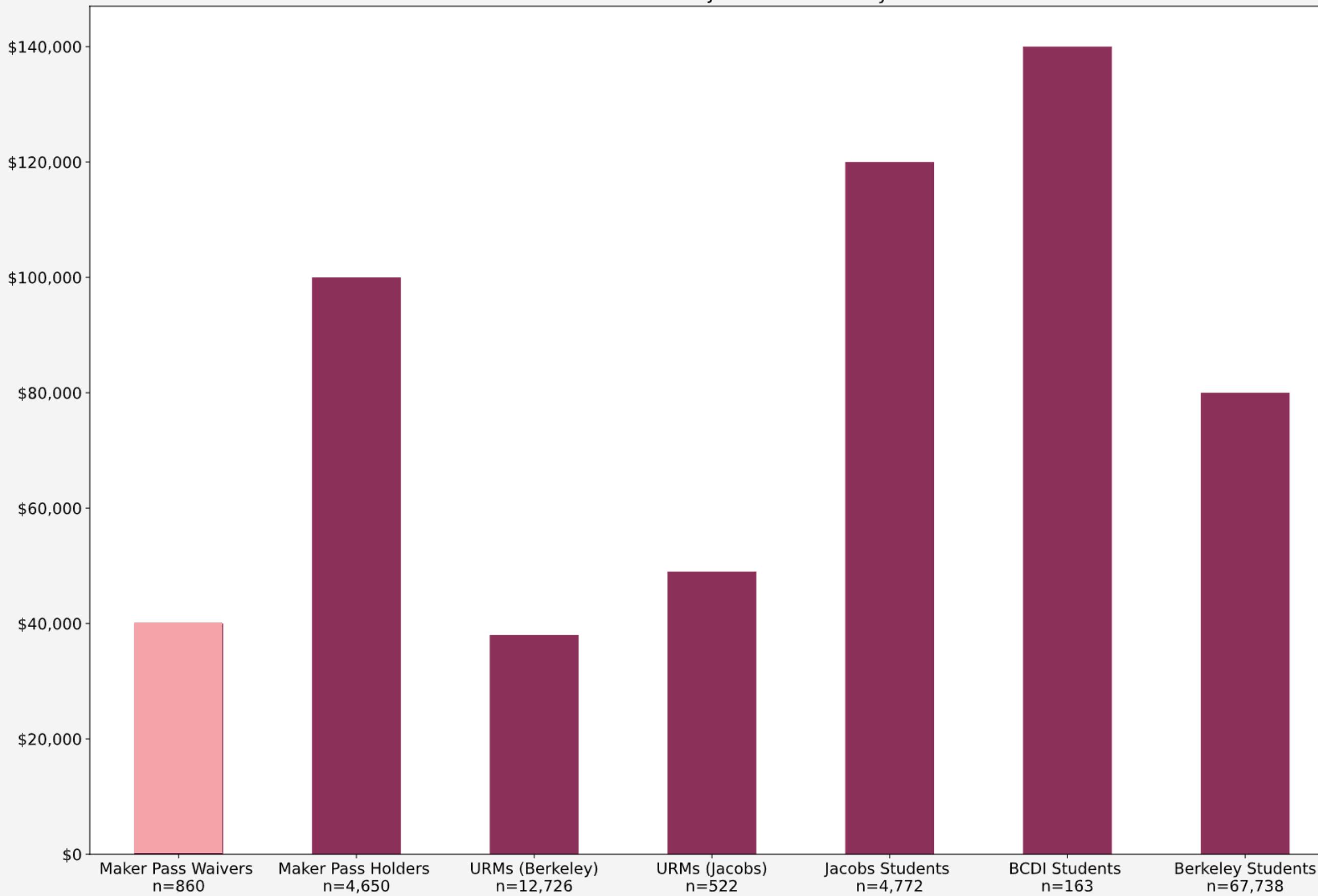
Median Incomes in Jacobs and Berkeley



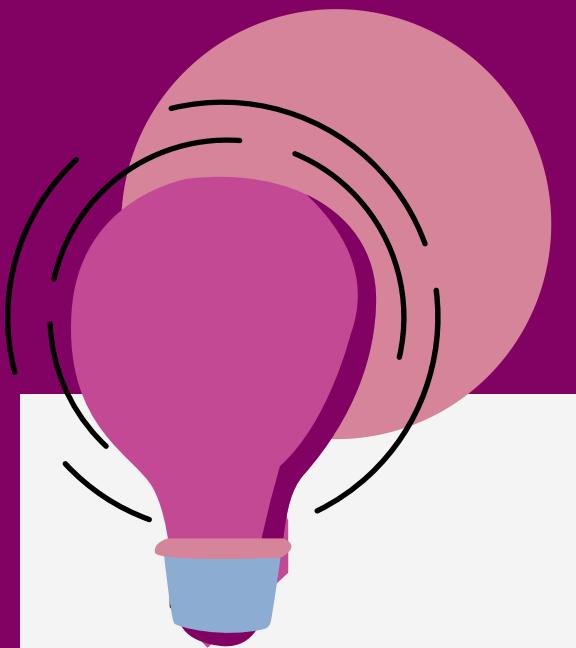
JACOBS AS A WHOLE

Incomes Across Different Groups

Median Incomes in Jacobs and Berkeley



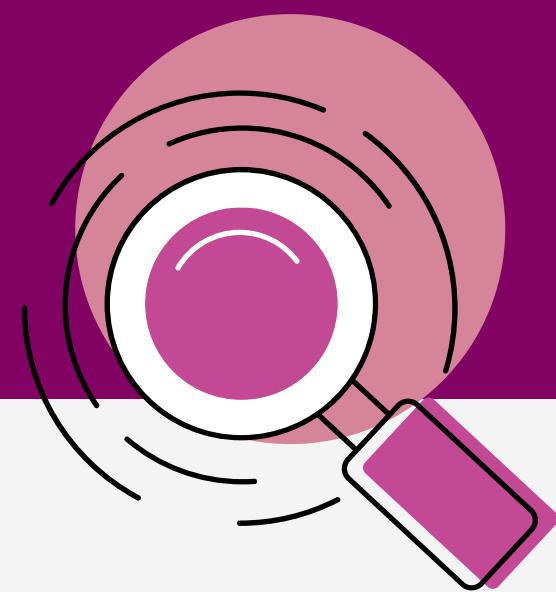
JACOBS AS A WHOLE



Jacobs Overall Insights

- 1 Jacobs has lost hundreds of women and URM students from participating in its programs
- 2 Rising numbers of women and URMs have stagnated in recent years
- 3 Jacobs draws a homogeneous group of students from Berkeley
- 4 There is room for improvement

Further Questions



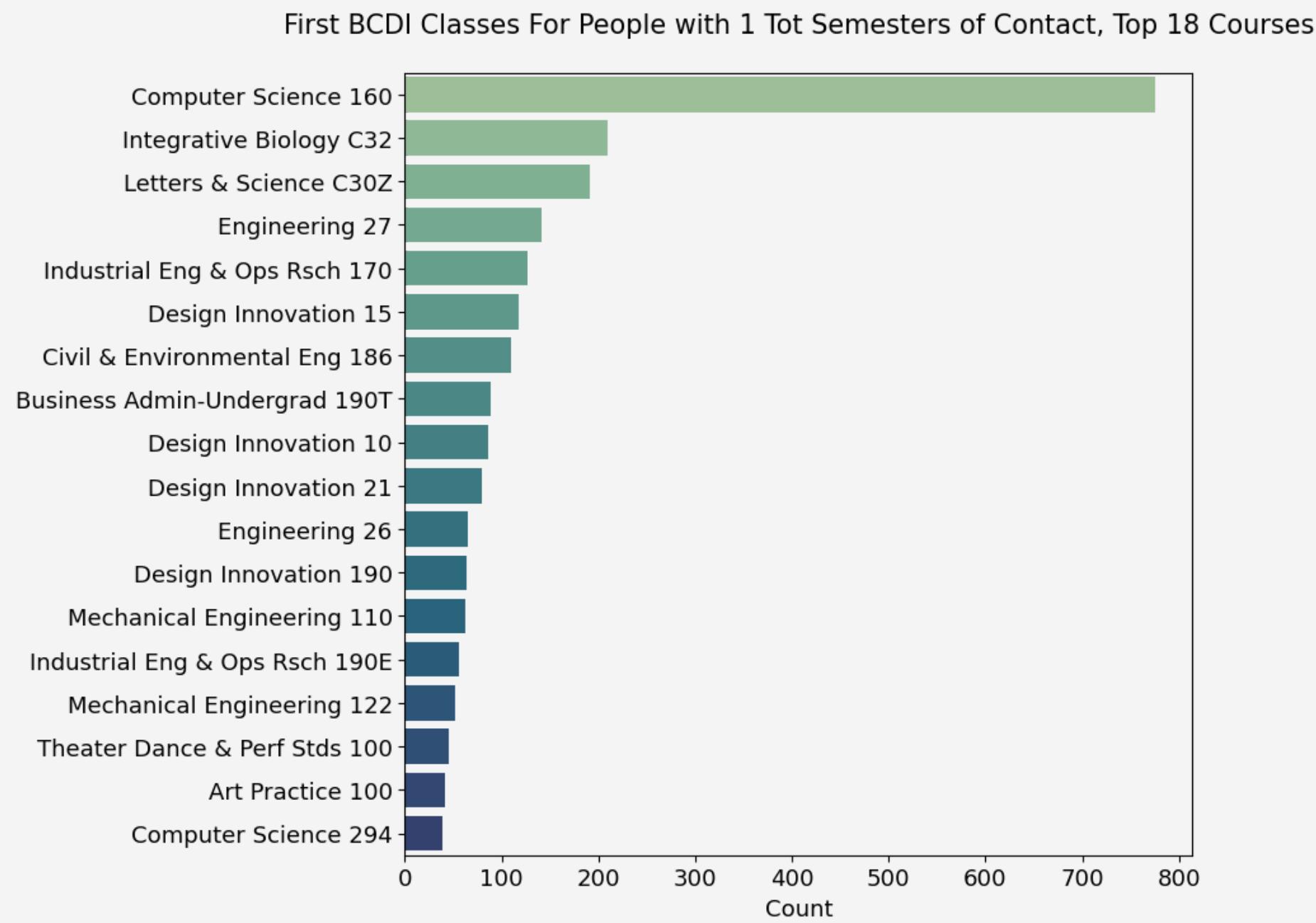
- 1 How is Jacobs being advertised to students?
- 2 How might we make Jacobs more appealing to students that are not in its top majors?
- 3 What do we see in data that could increase the number of women and URMs at Jacobs?

Courses and Retention: Motivation

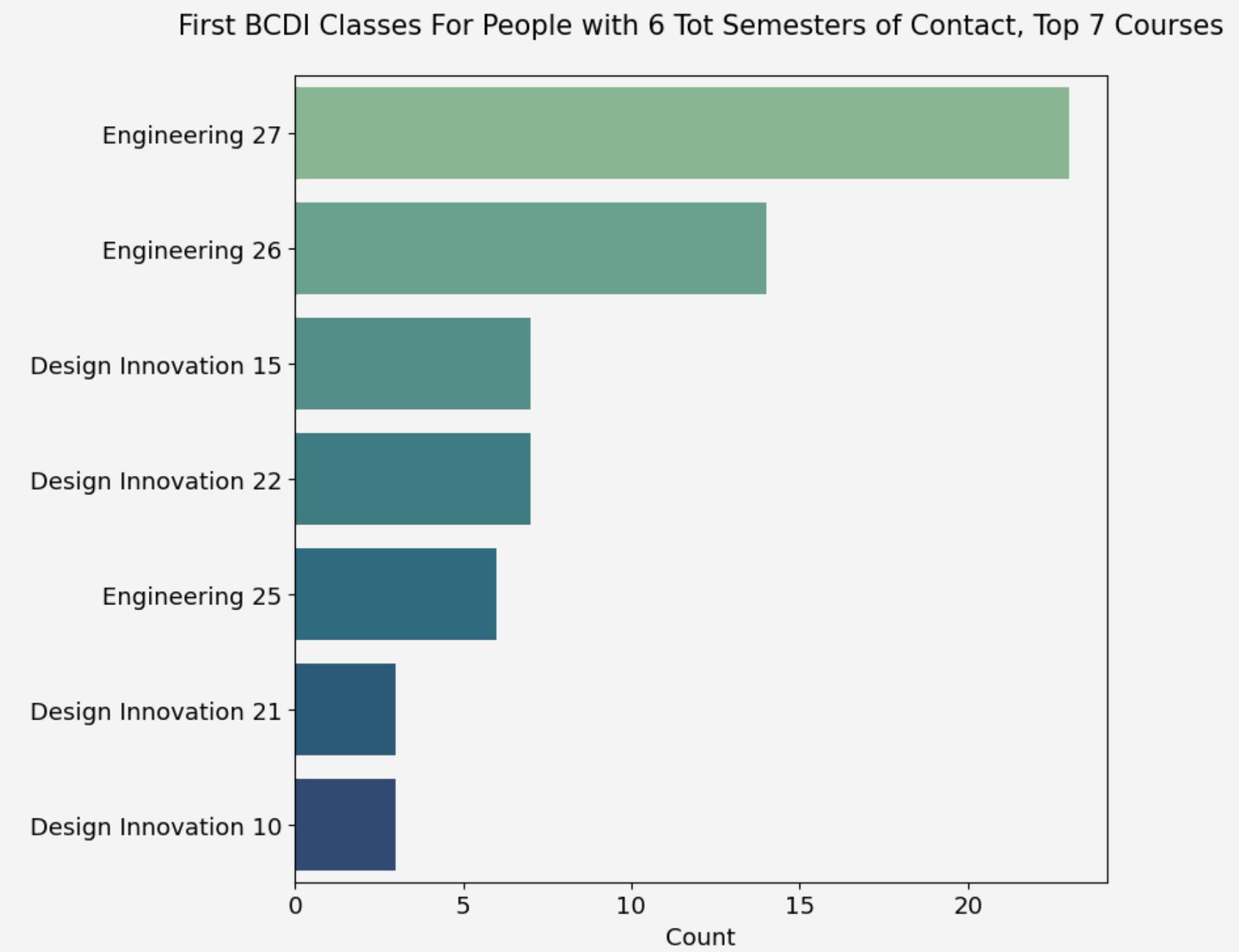


- 1 What classes promote the highest retention? Conversely, where are the dropoff points?
- 2 What's the state of URM retention and representation?
- 3 What's the state of female retention and representation?

Low Retention Entry Points



High Retention Entry Points



PATHS

Legend:

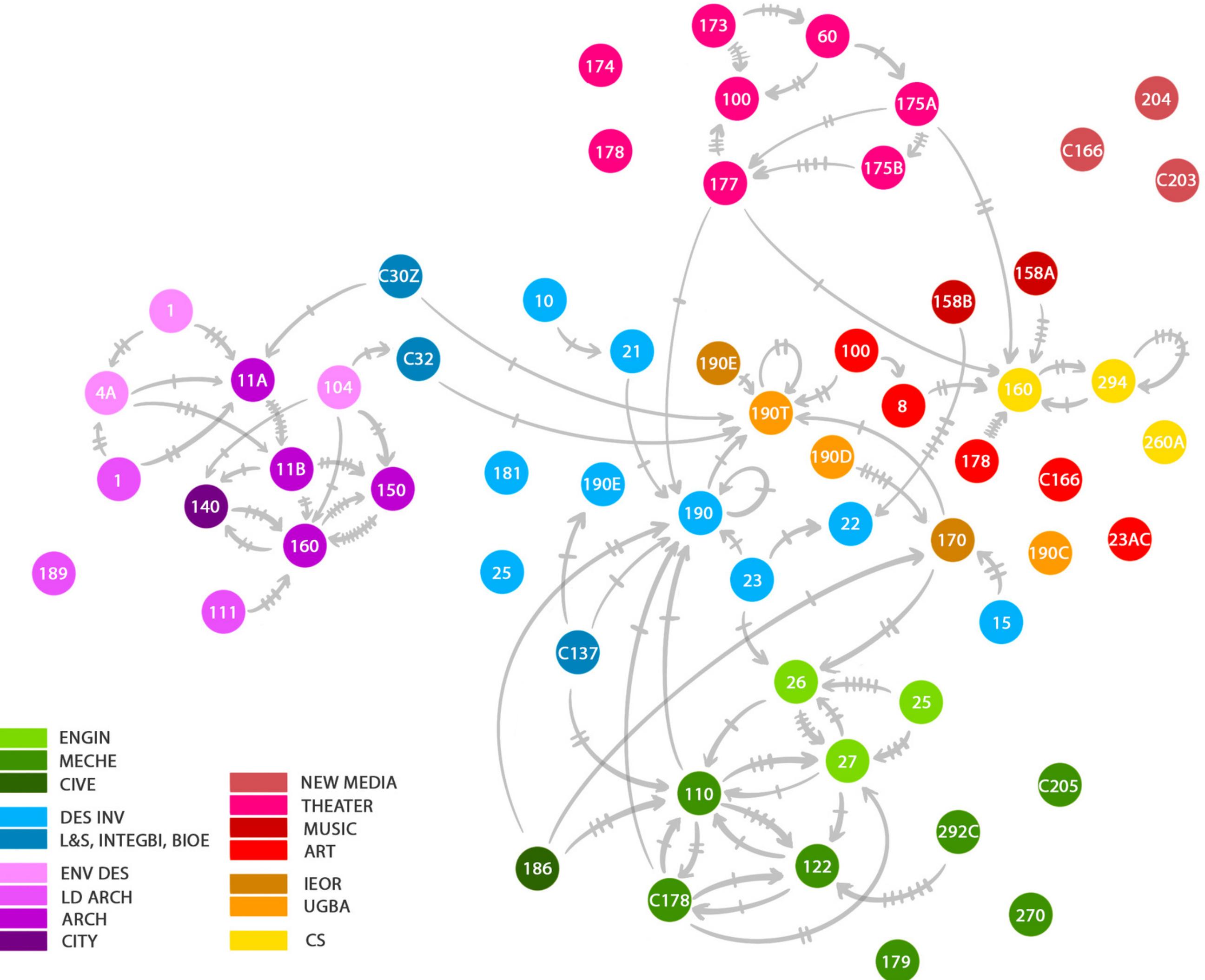
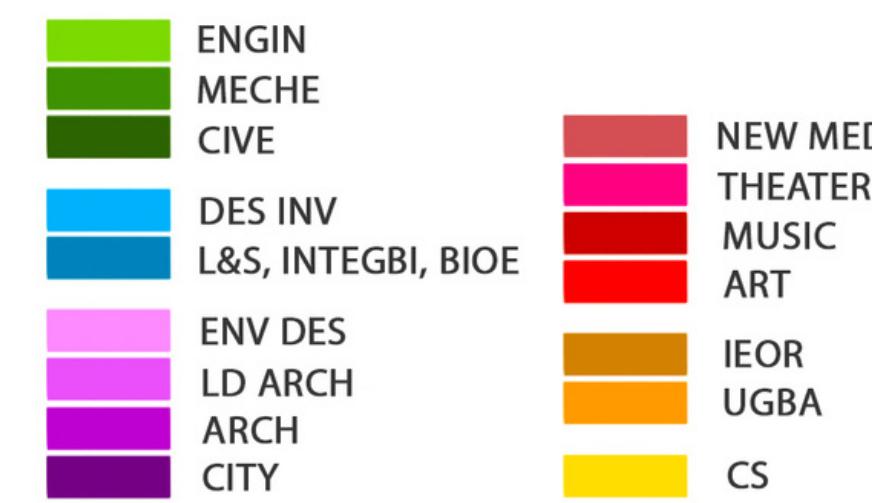
A - || -> B

Of people who took another BCDI class after class A:

|| = 20%

20% took class B

Only succession rates higher than 10% were visualized



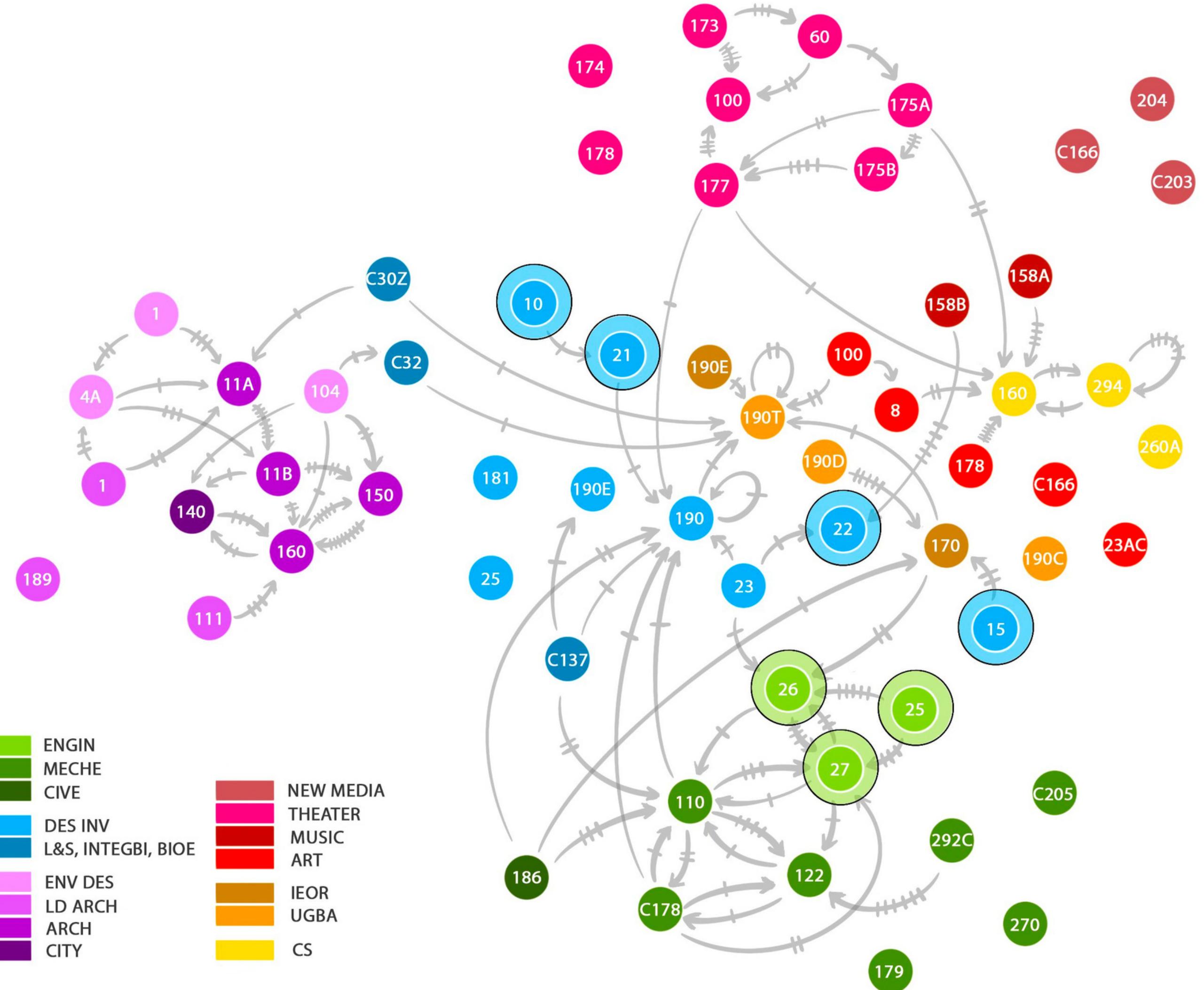
PATHS

Key Insights:

1 Some clusters are "stickier" than others

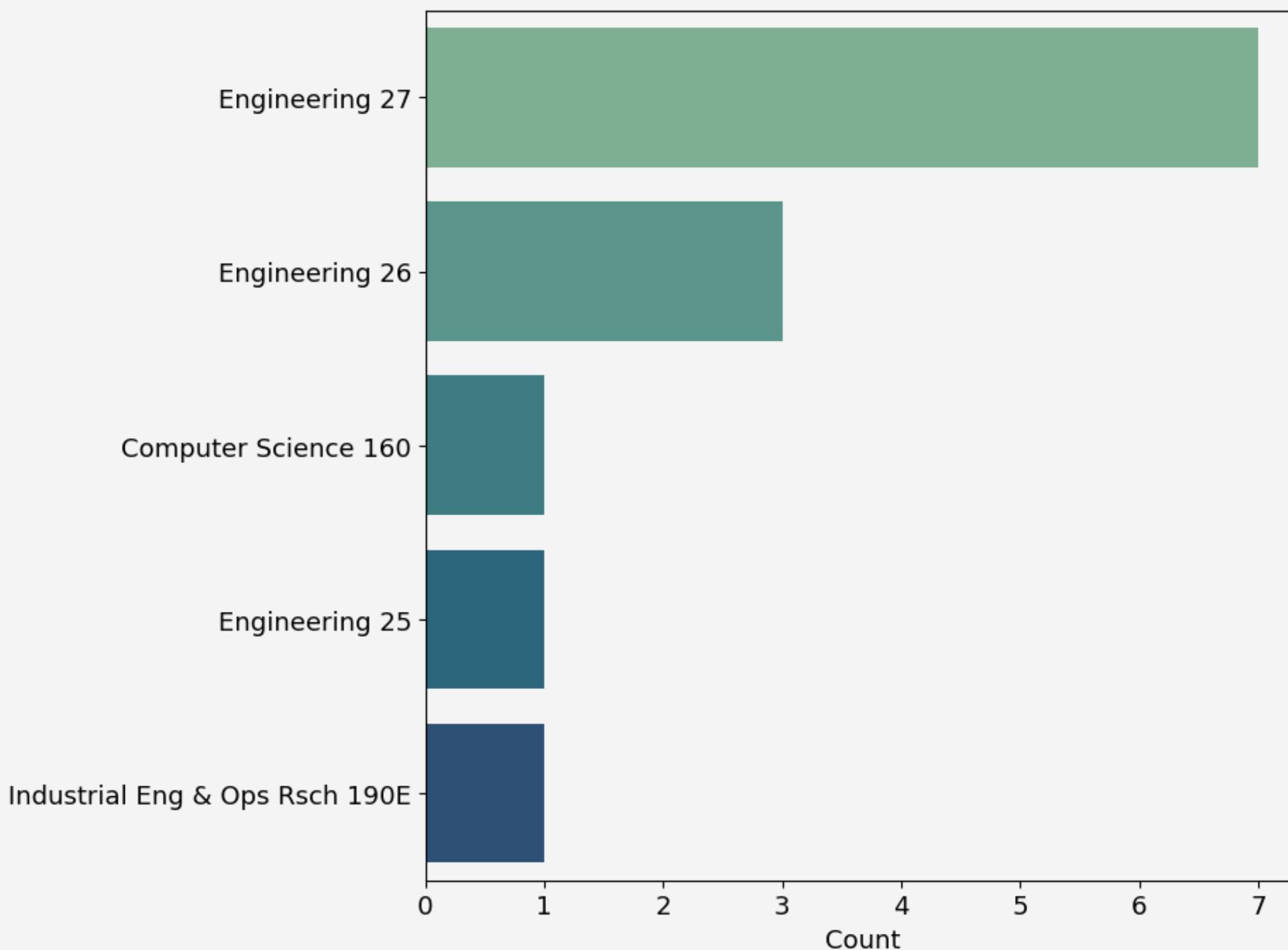
2 "Stickiness" => retention

3 Evidence for more than one form of retention



High Retention URM Entry Points

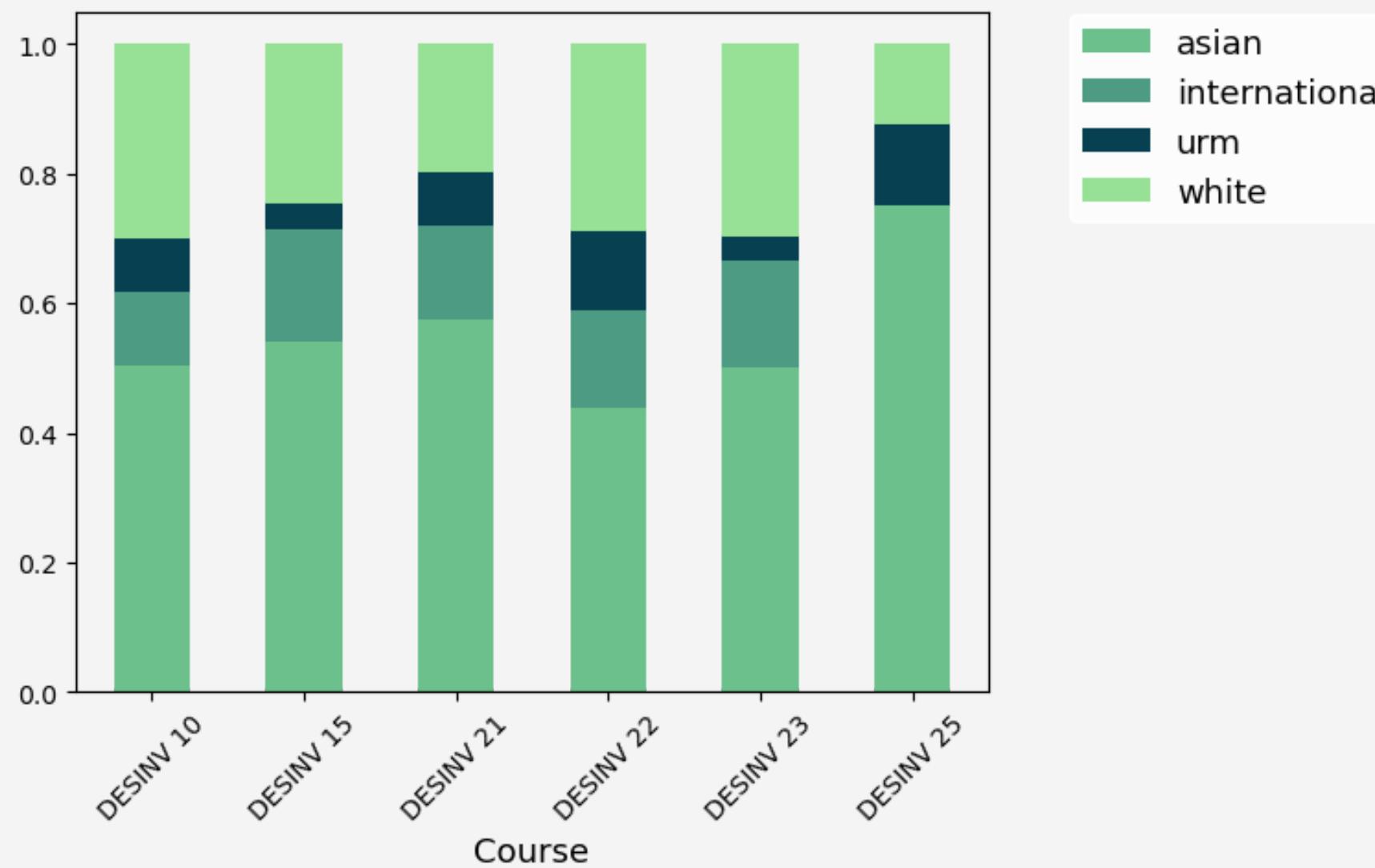
First Jacobs Affiliated Classes taken by URM^s with 4 Total Semesters of Contact



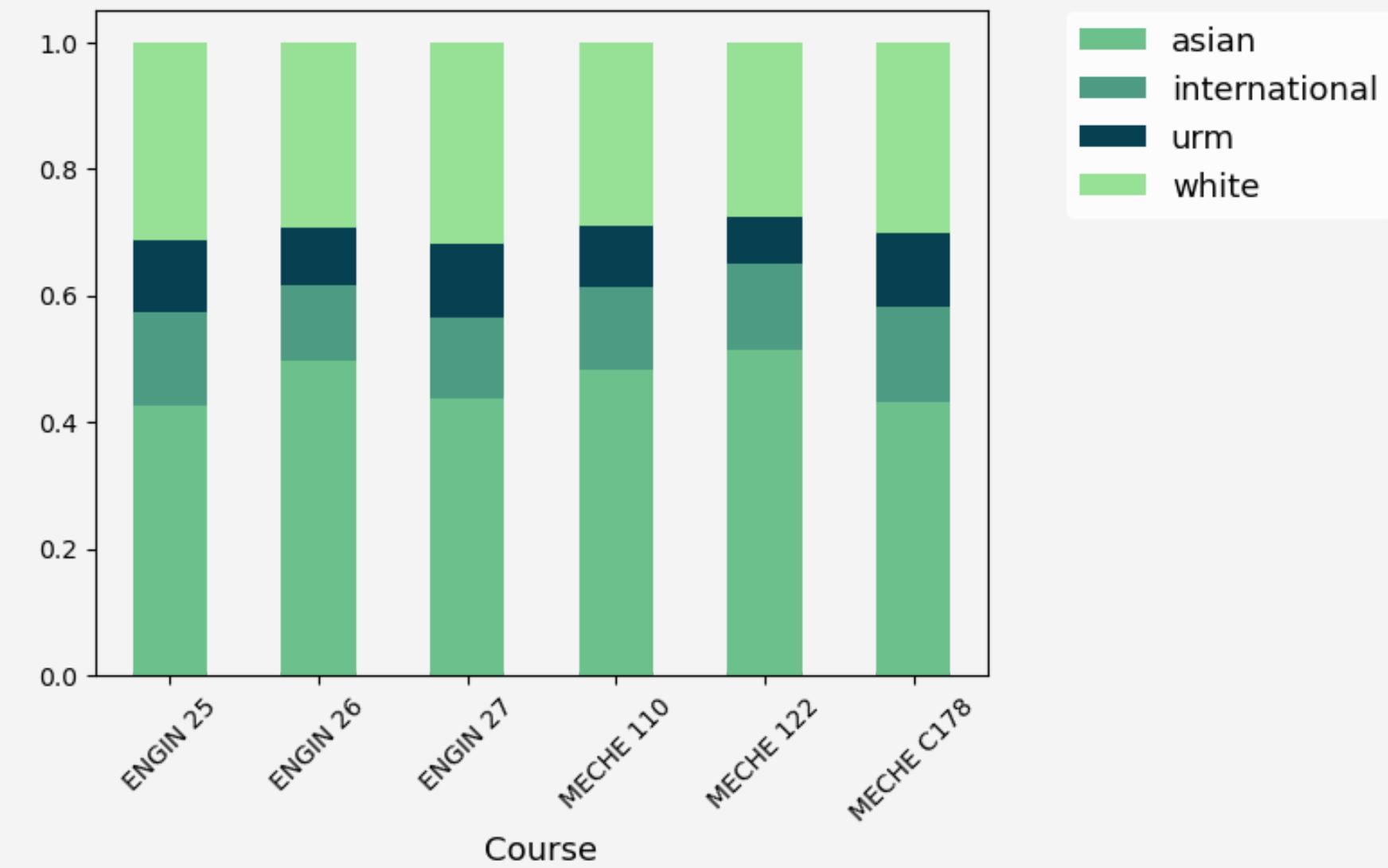
Ethnicity in DESINV courses

Ethnicity in Engineering Courses

Proportional Ethnic Breakdown

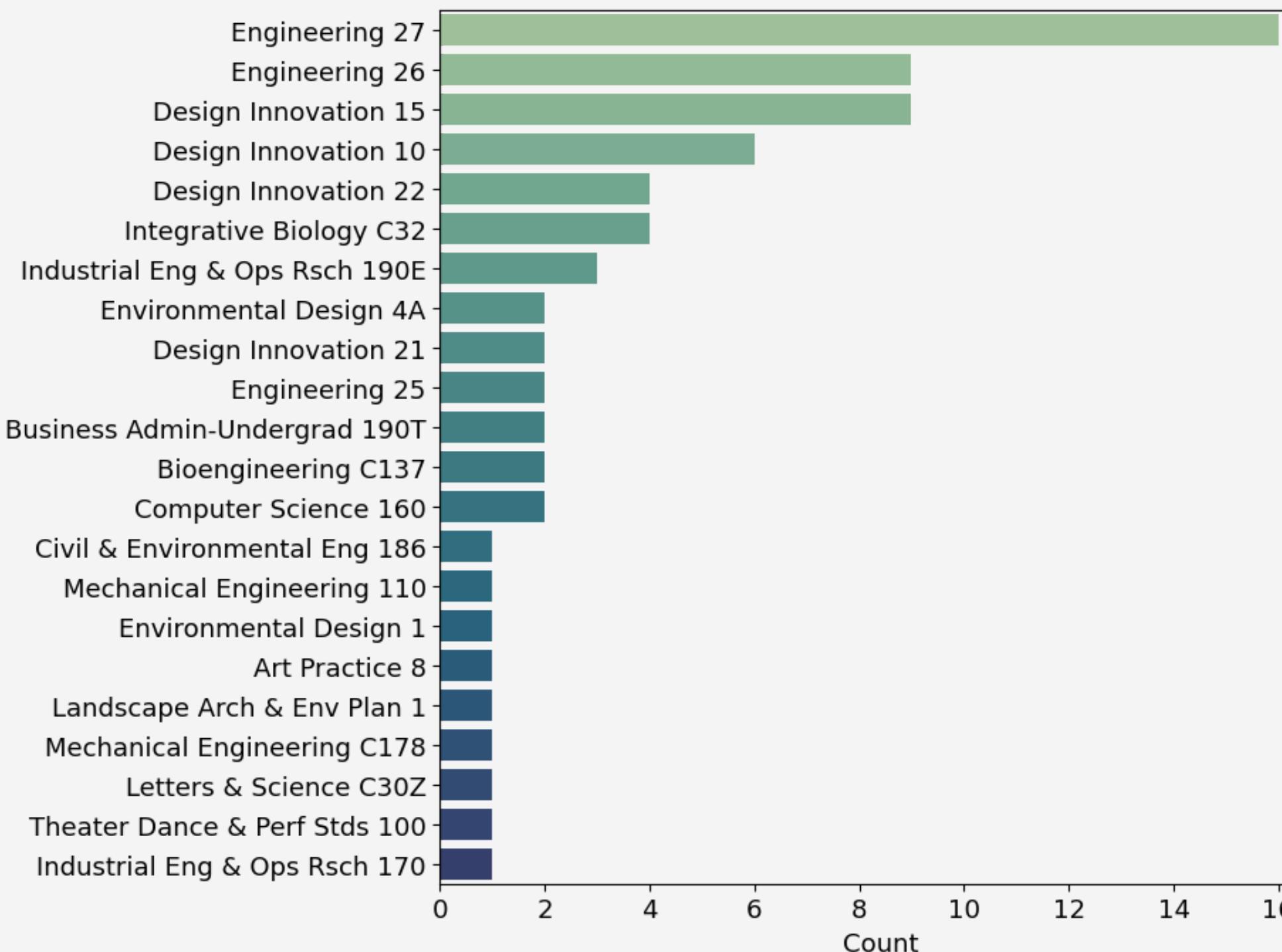


Proportional Ethnic Breakdown



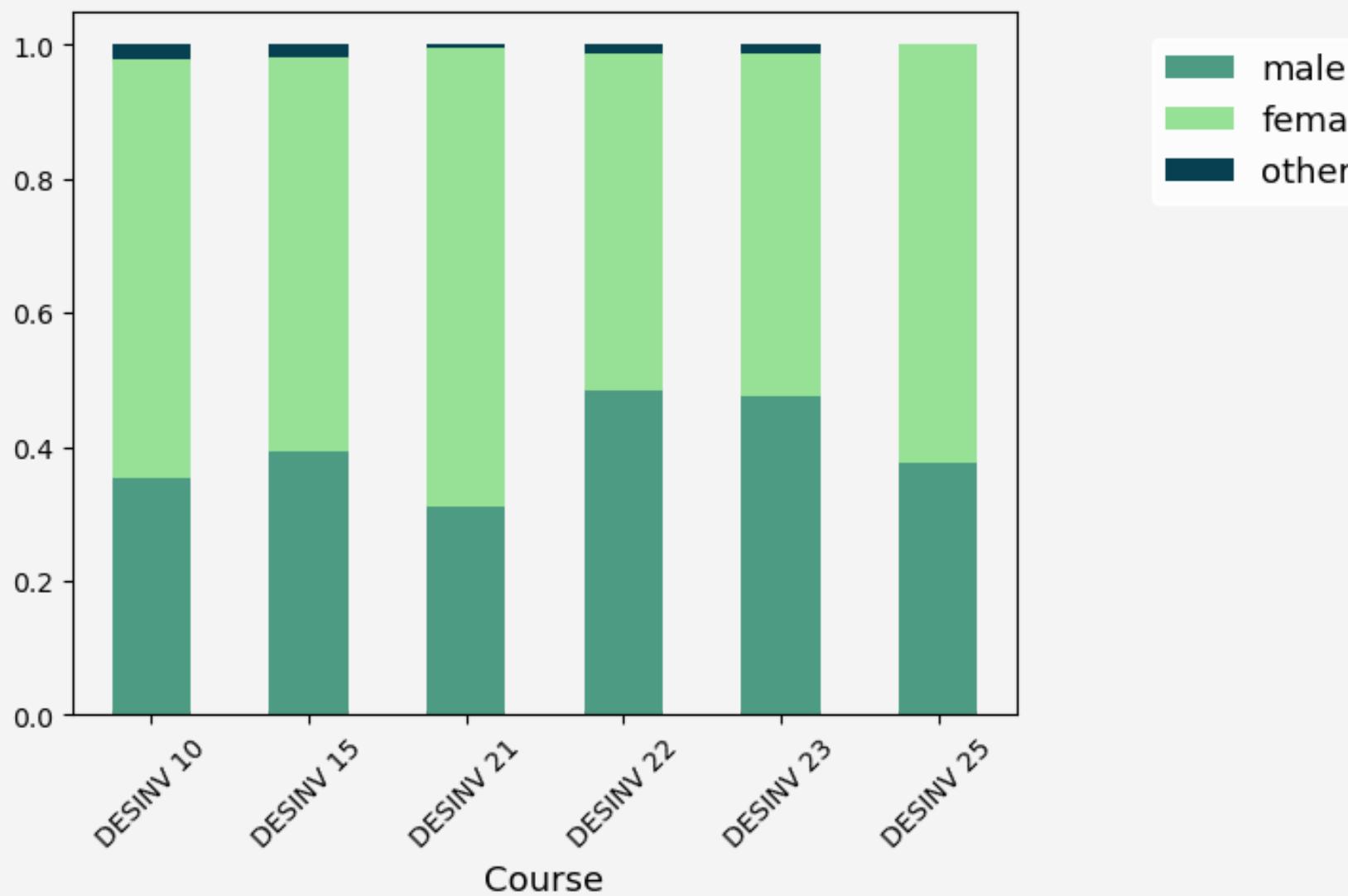
High Retention Female Entry Points

First Jacobs Affiliated Classes taken by Females with 4 Total Semesters of Contact



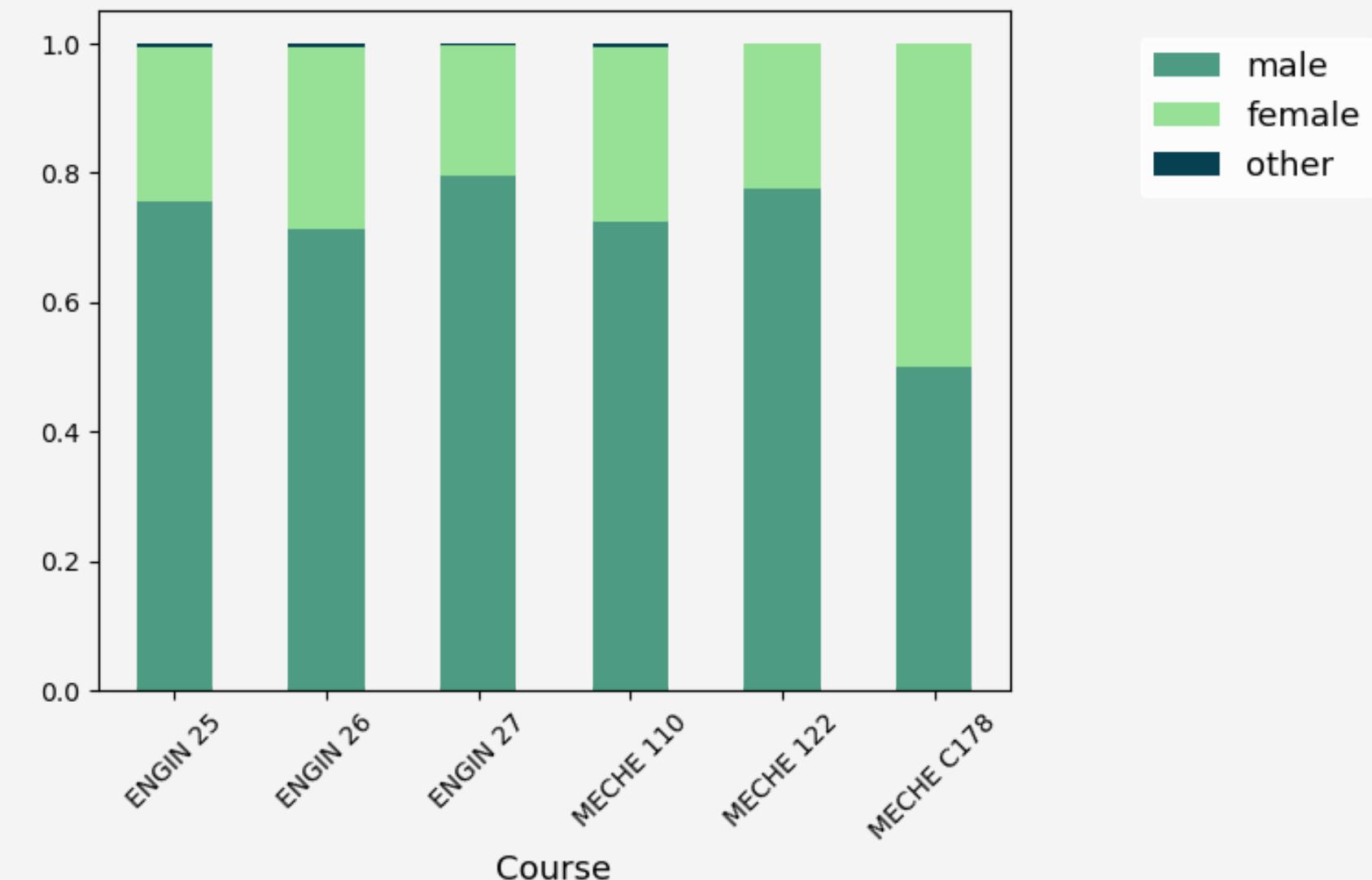
Gender in DESINV courses

Proportional Gender Breakdown by Jacobs Course

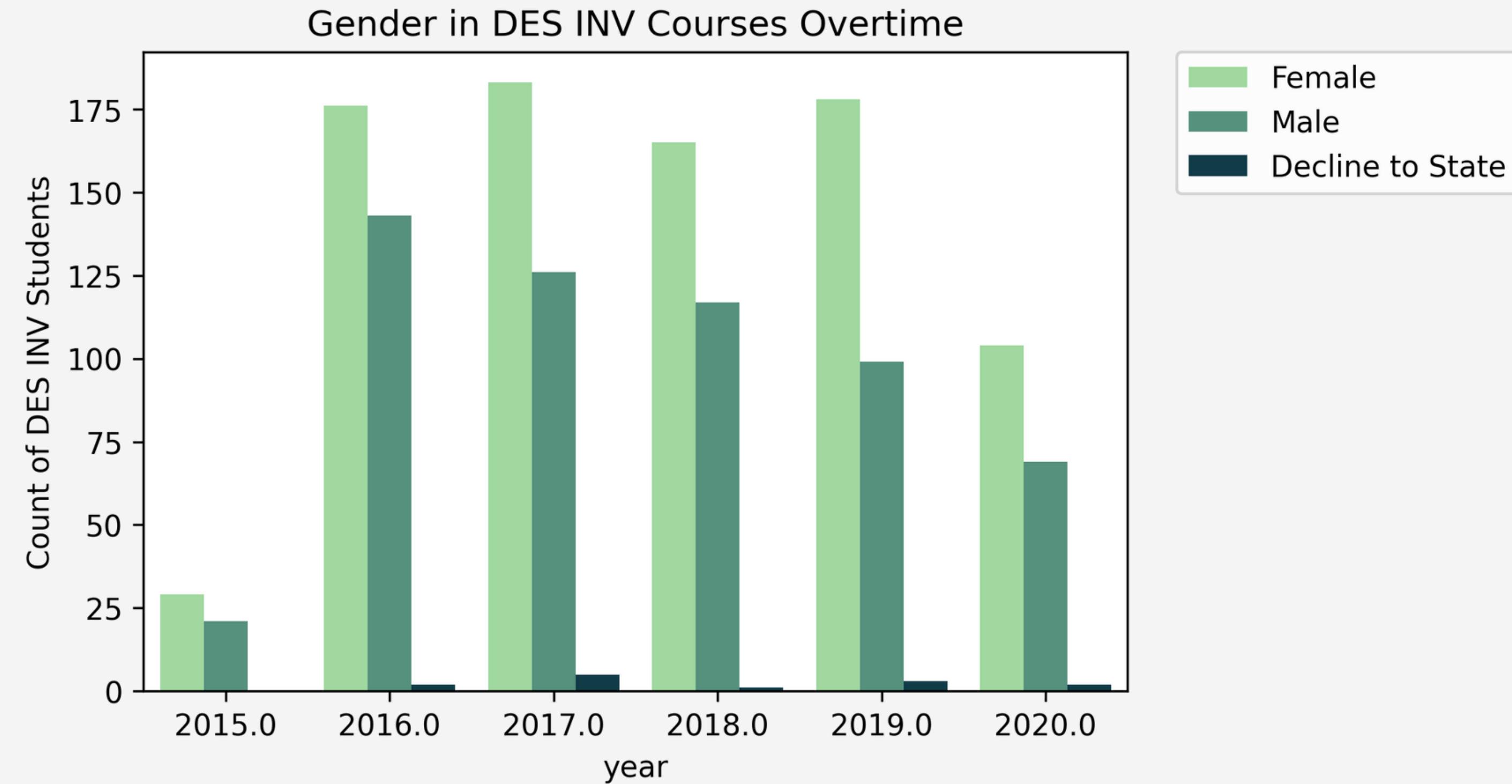


Gender in Engineering Courses

Proportional Gender Breakdown by Jacobs Course



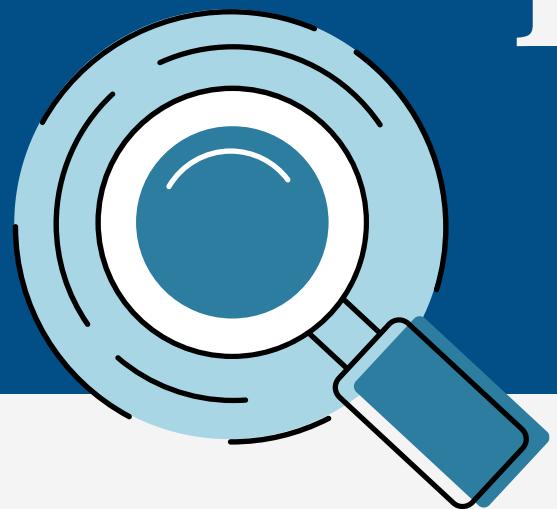
Gender Breakdown in DESINV courses



Insights

- 1 Two types of retention: structural and exploratory.
=> Expanding Des Inv courses may retain more students by the latter way
- 2 URMs are best retained and represented by engineering courses.
=> Continue current engineering department policies
- 3 Women are best retained and represented by Design Innovation courses.
=> Expanding Des Inv courses may be key to creating a gender balance

BCDI Courses/Completion Overall Questions

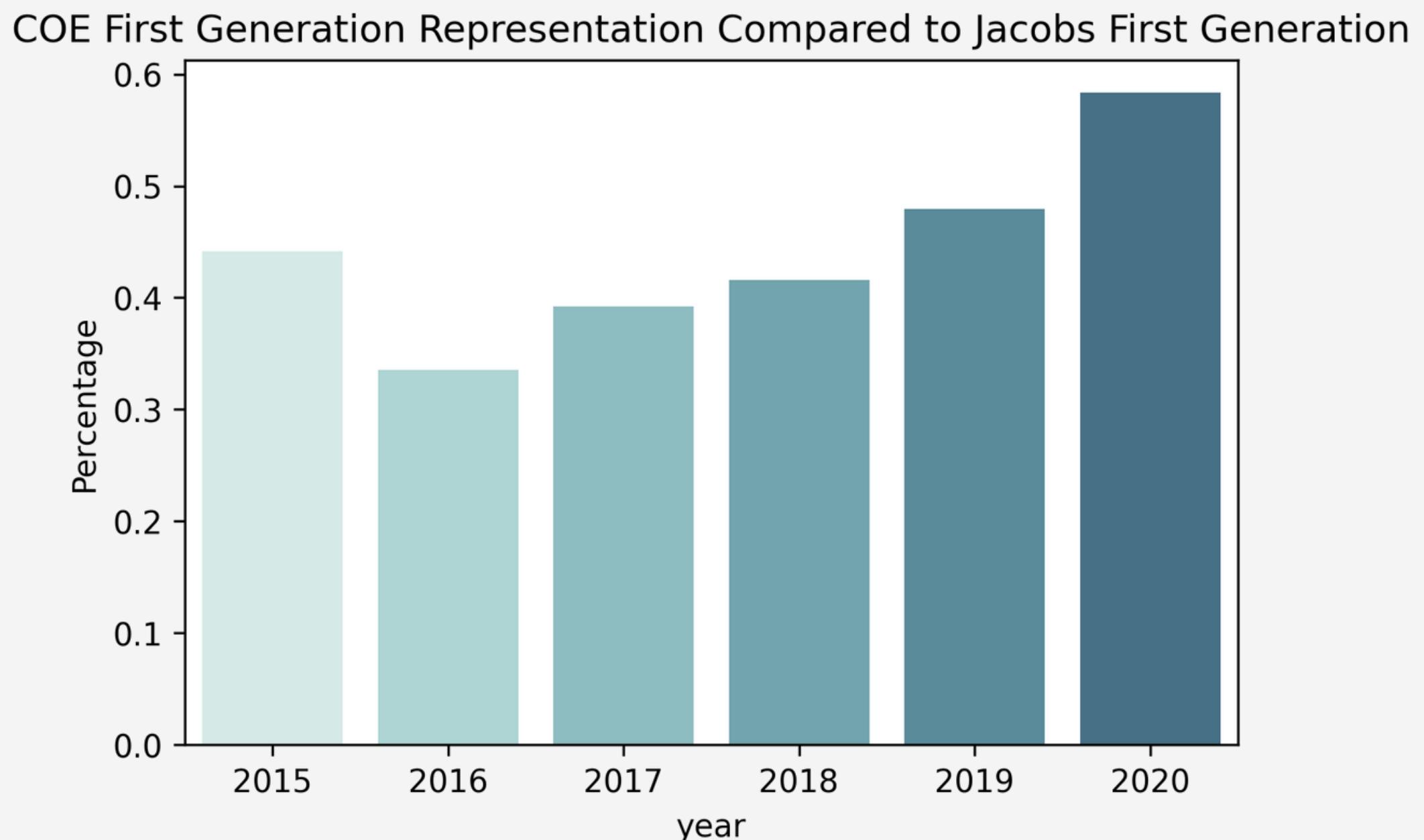


- 1 How does the College of Engineering first generation representation in Jacobs compare to Jacobs' first generation representation overall?
- 2 How are first generation students interacting in Jacobs' courses and BCDI?
- 3 What demographics are completing or pursuing the BCDI the most?

First Generation Clg. of Engineering in BCDI

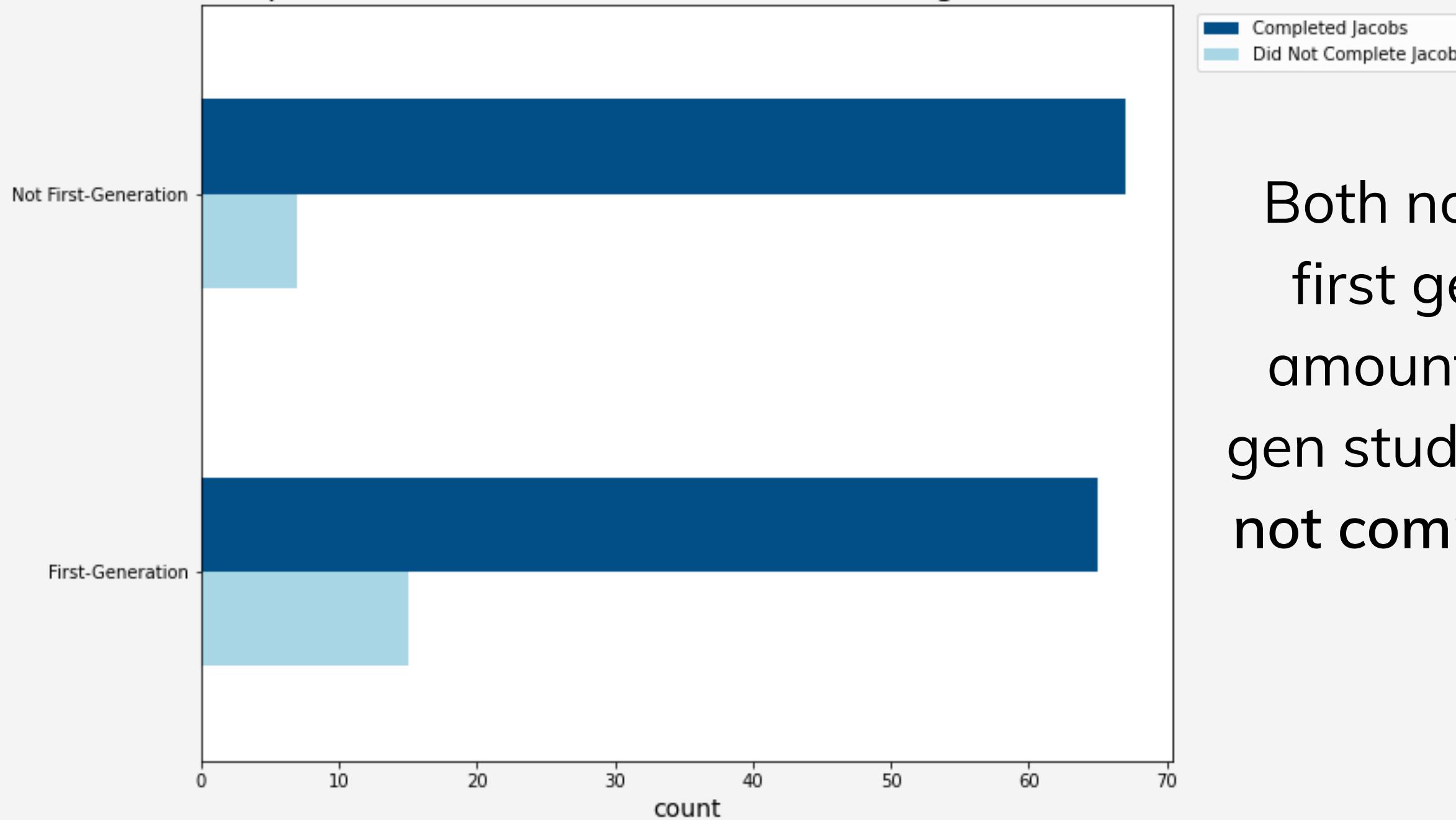
only 3

First Generation COE students
have completed the certificate
despite COE first generation
students representing nearly half of
Jacobs' first generation student
population



First Generation in BCDI Courses

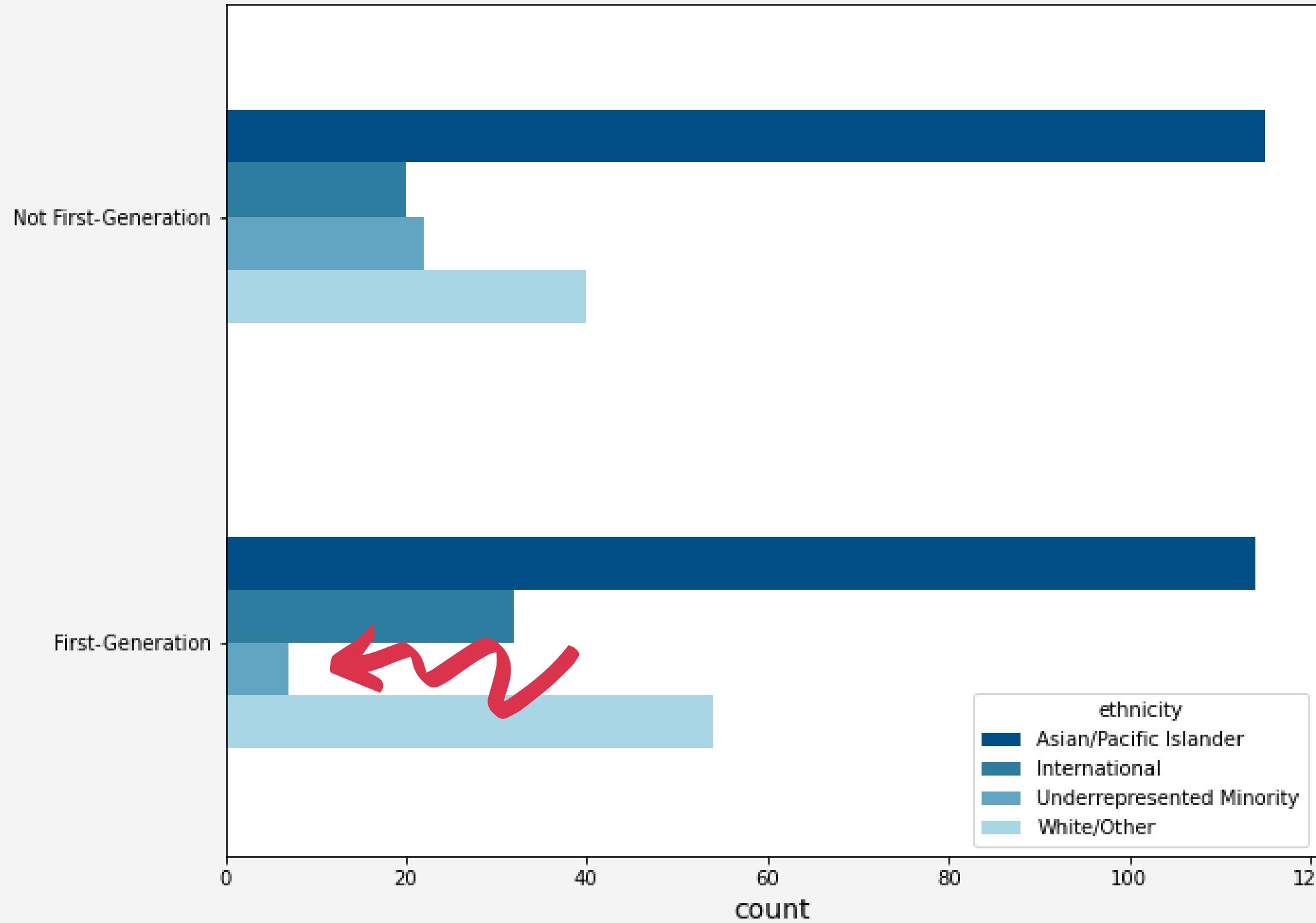
Composition of First-Generation Students Taking BCDI Courses



Both non first-gen students and first gen students have a high amount of completion, but first-gen students have a higher rate of not completing the BCDI program

First Generation in BCDI Courses

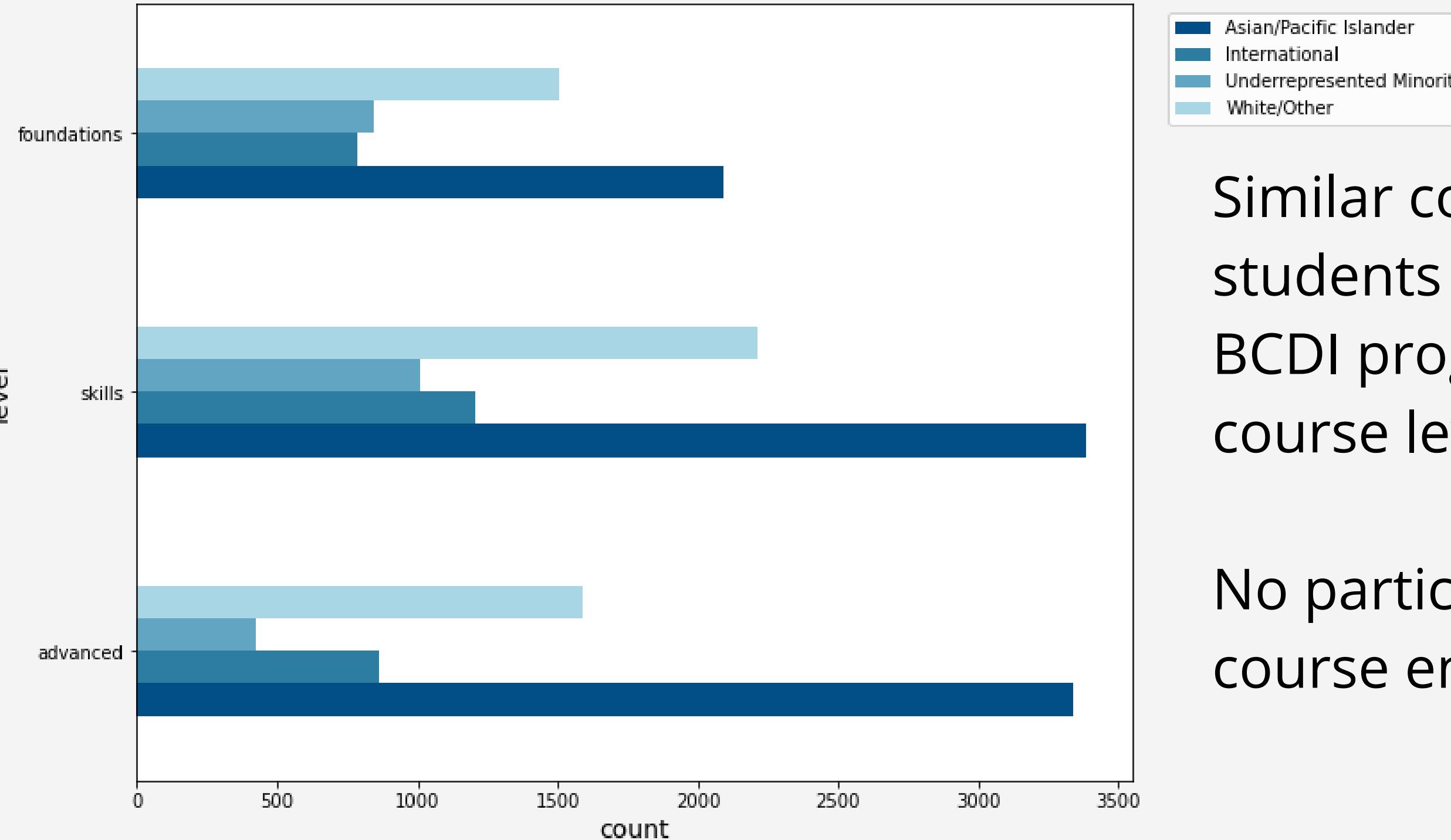
Completion of BCDI By Ethnicity and First-Gen Status



First-Gen URMs have the lowest rates of completing BCDI Coursework

Ethnic Composition for BCDI Students

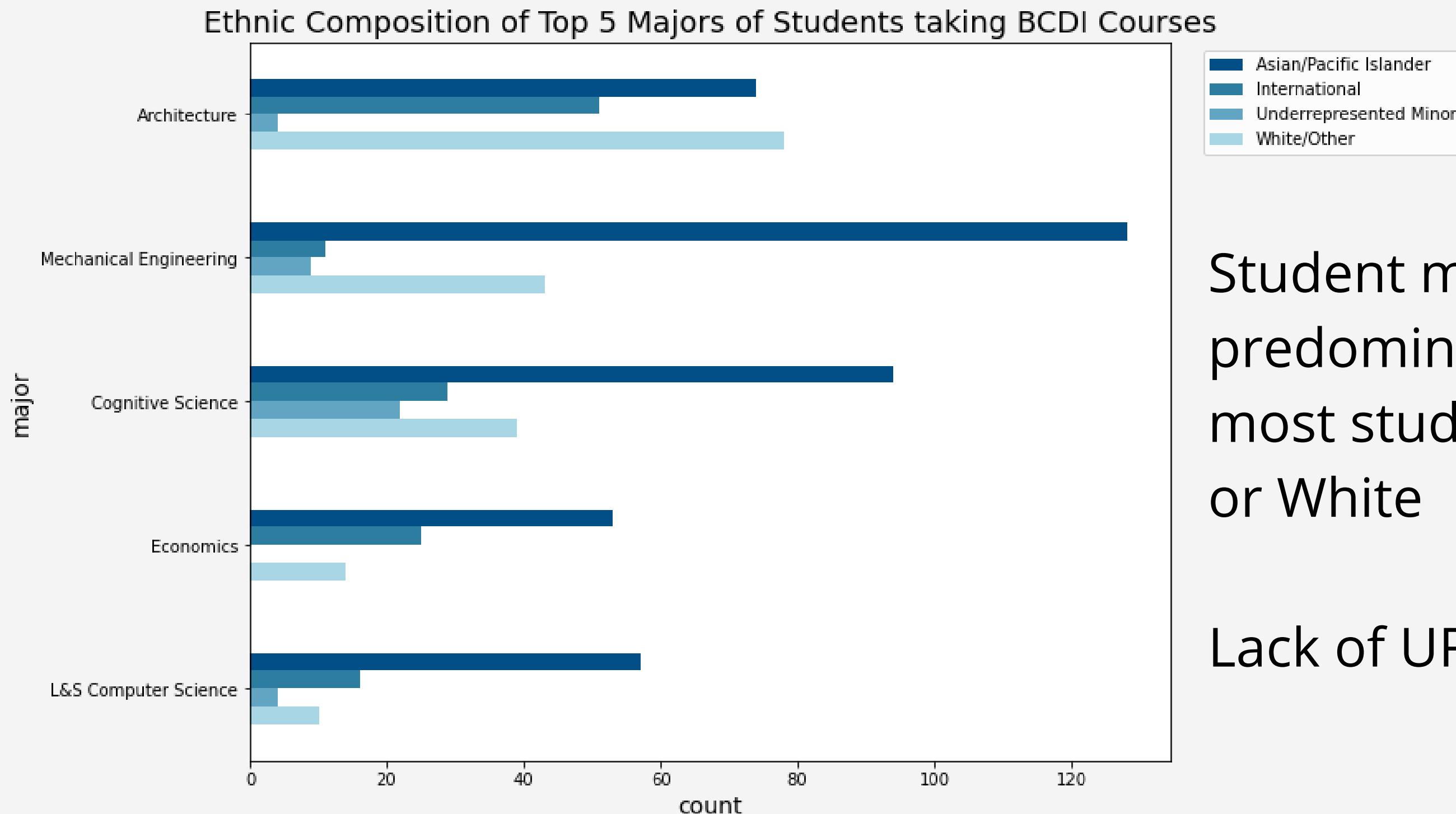
Ethnic Composition of Students taking Jacobs Courses by BCDI Course Level



Similar composition of students taking courses for BCDI program across the course levels

No particular hierarchy to course enrollment

Ethnic Composition by Major for BCDI

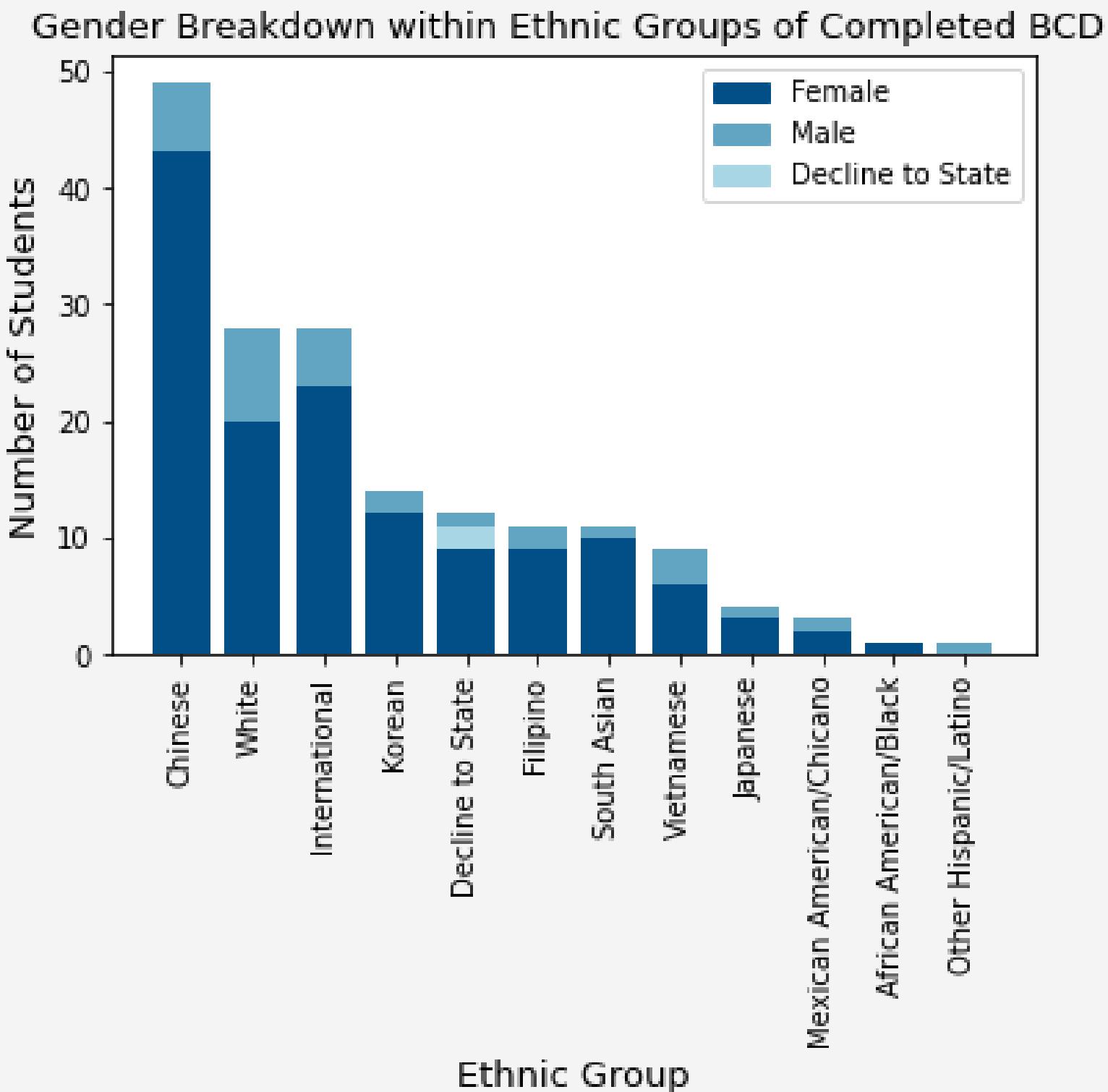


Student majors are predominantly STEM, with most students being Asian or White

Lack of URM representation

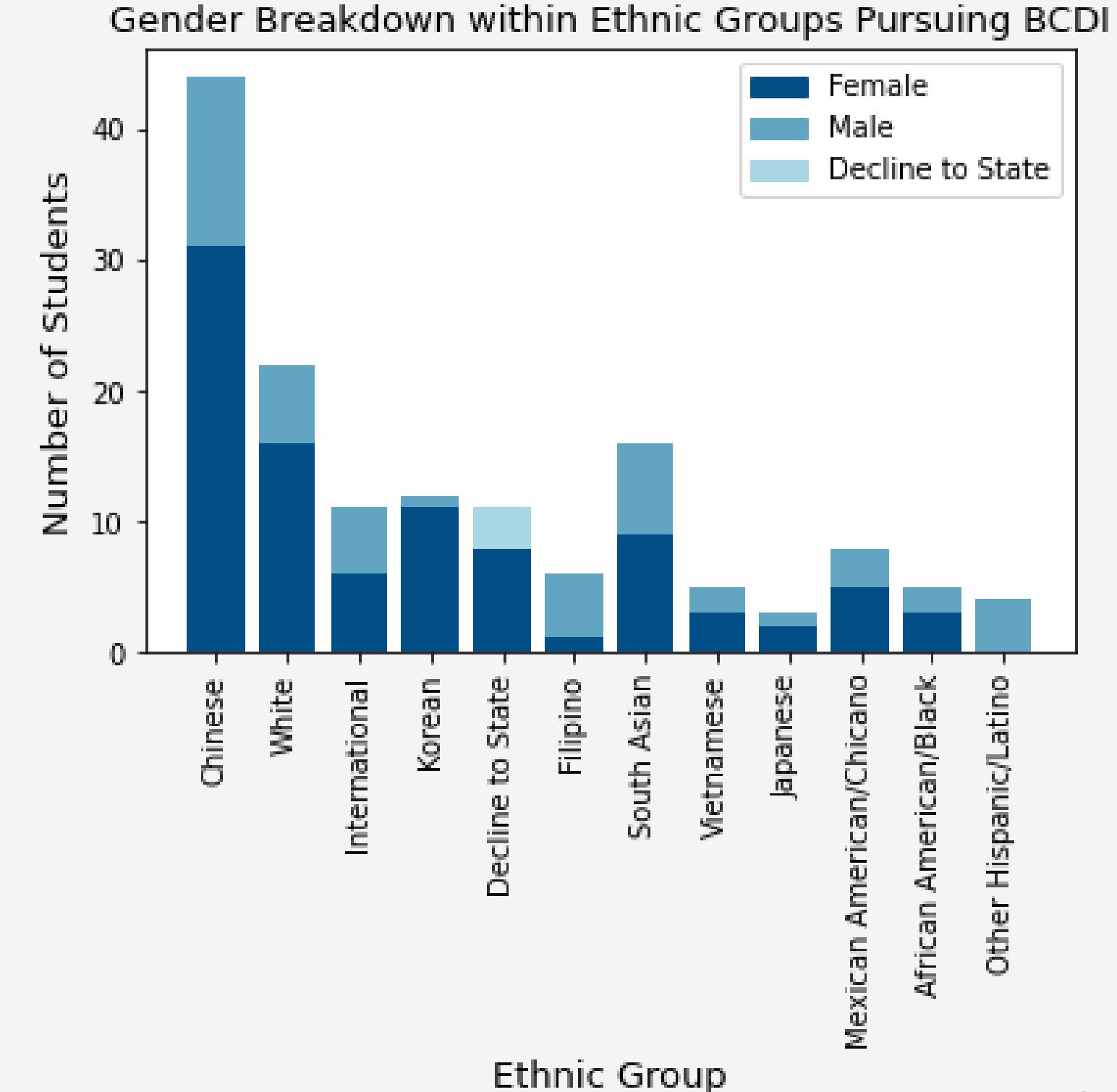
Completed BCDI

Gender Breakdown Across Ethnicities



Pursuing BCDI

Gender Breakdown Across Ethnicities



BCDI Insights and Takeaways

- 1 First-generation students are underrepresented in the Jacobs certificate
- 2 Chinese females are the largest group of pursuing and completed BCDI requirements
- 3 Direct female students toward makerspace focused courses (i.e. E27/E29) and oppositely for males
- 4 Low commitment introductory DeCal to Makerspace

Makerspace Overall Questions



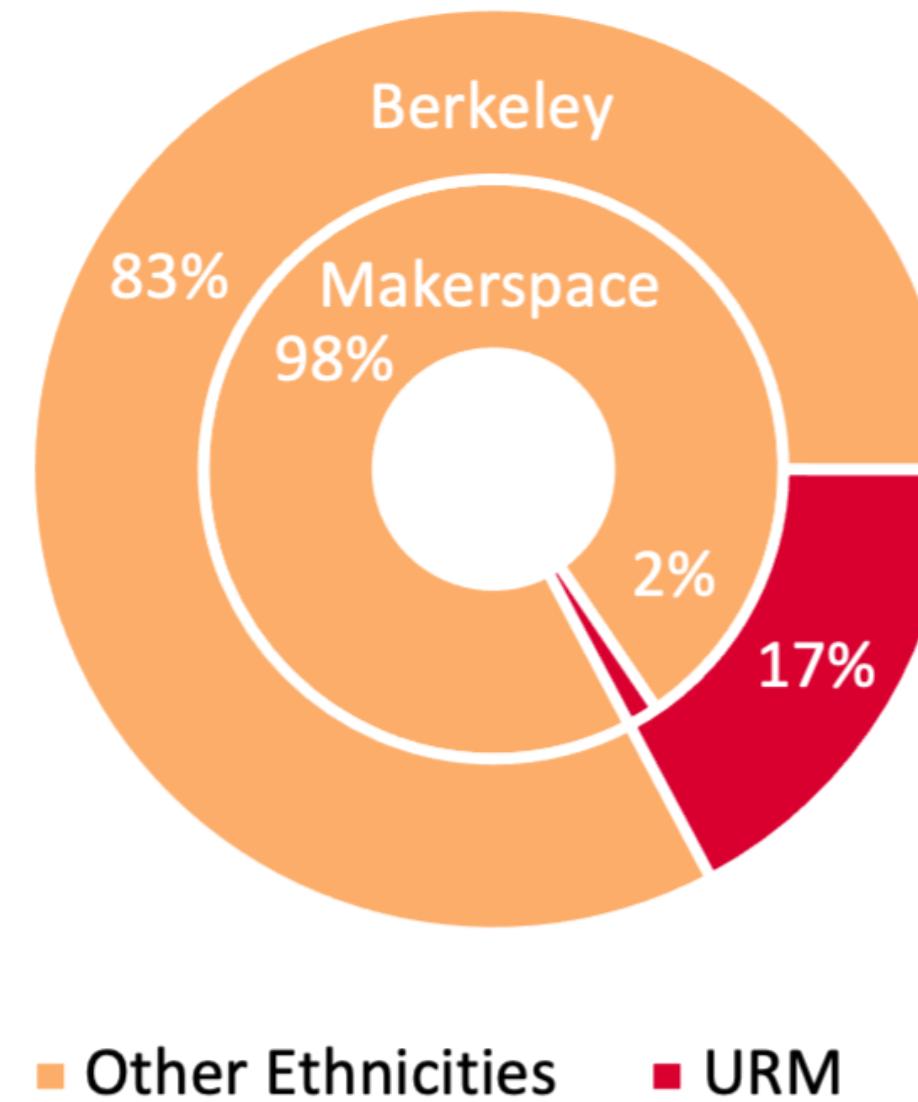
- 1 How does the URM percentage among MakerPass Holders compare with UC Berkeley?
- 2 Does the high participation among females in DES INV & BCDI courses carry over to the MakerSpace?
- 3 How can we encourage participation from females & URMs in the MakerSpace?

HOW DO THE MAKERSPACE DEMOGRAPHICS COMPARE TO UC BERKELEY & JACOBS AS A WHOLE?

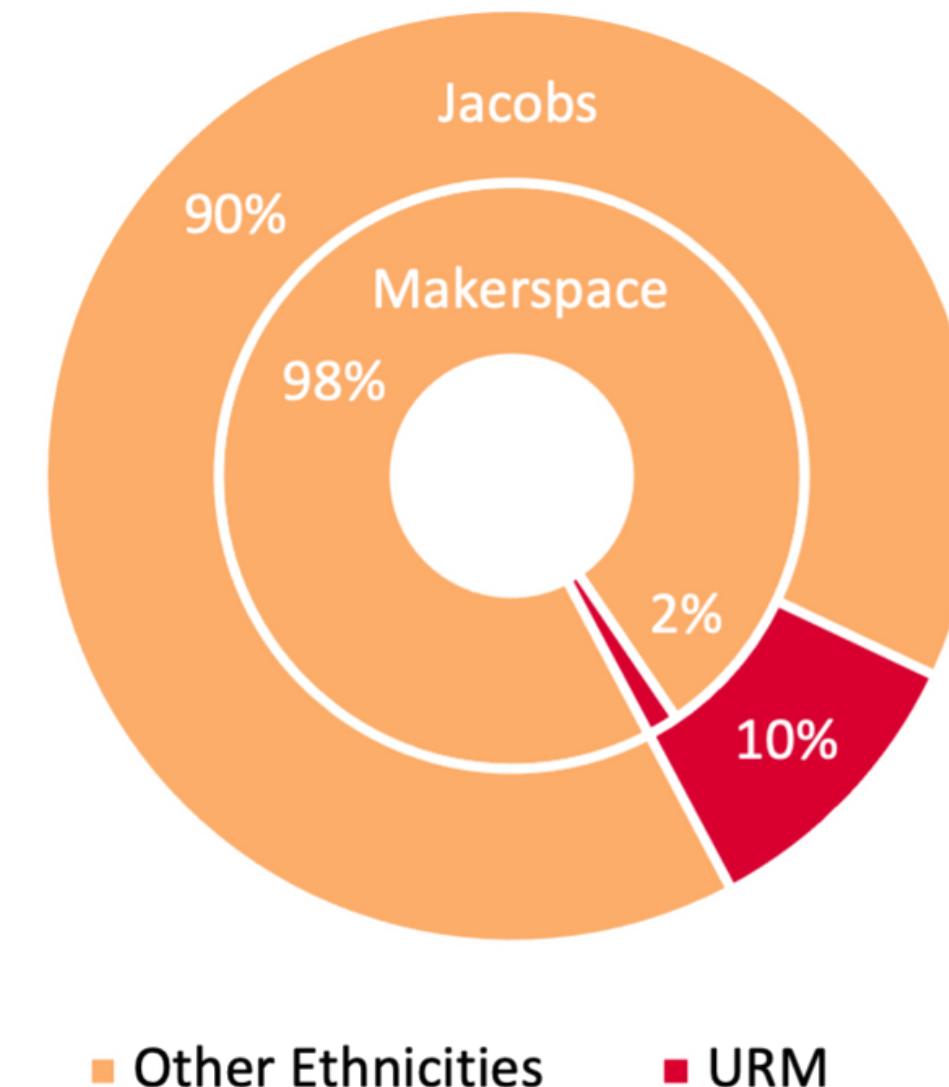
Key Takeaways:

1. URMs are severely underrepresented in the Makerspace
2. Only **142/8429 (2%)** of pass holders have been URMs

URM Percentage at UC Berkeley vs. Makerspace



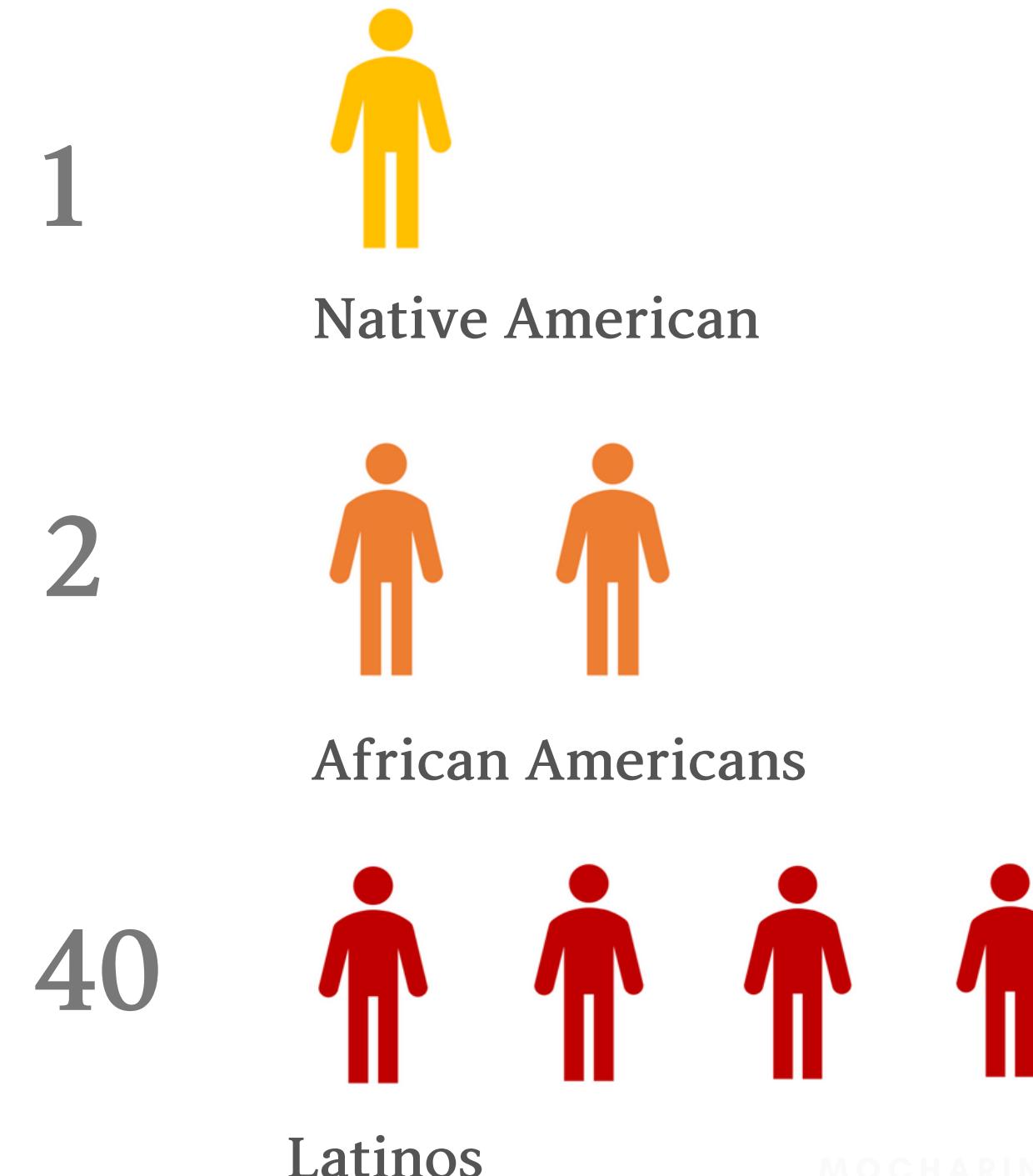
URM Percentage at Jacobs vs. Makerspace



URM Makerpass Holder Highlights

Important question:
Why do URM's account for such a low % of participants ?

In 2019, there was a total of 1,005 active Makerpass Holders: Of those, there were only:

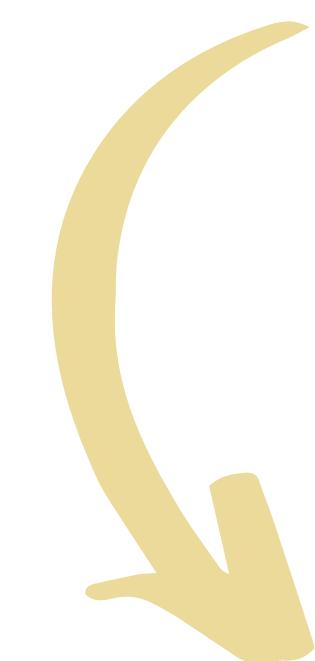


WHAT IS THE HOURLY PARTICIPATION OF URMS IN THE MAKERSPACE?

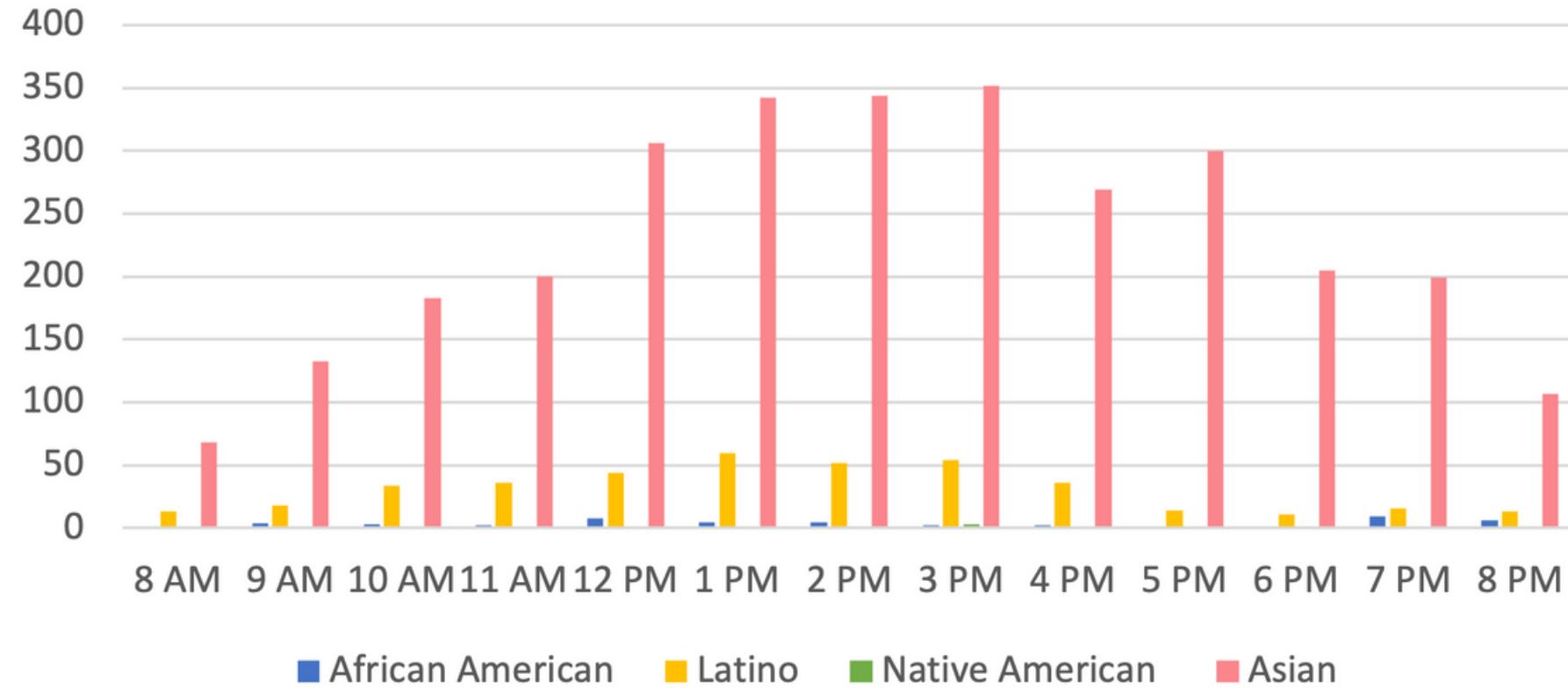
Key Takeaways:

1. Native American pass holders utilized the space 3 times in 2019
2. African American pass holders utilized the space 20 times in 2019

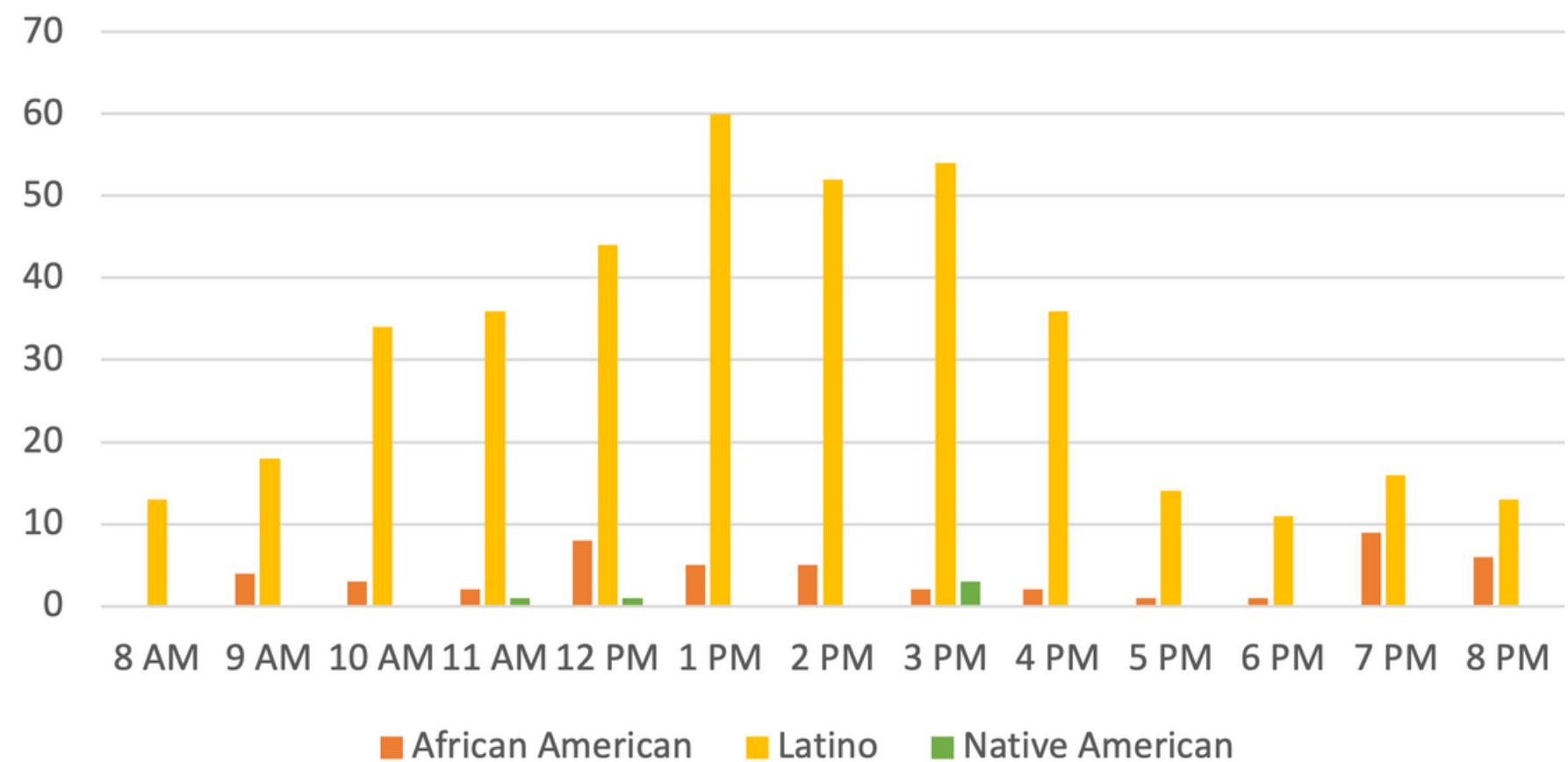
Zoomed in graph
displaying only
Hourly URM Usage
Count



2019 Hourly URM vs Asian Usage Count



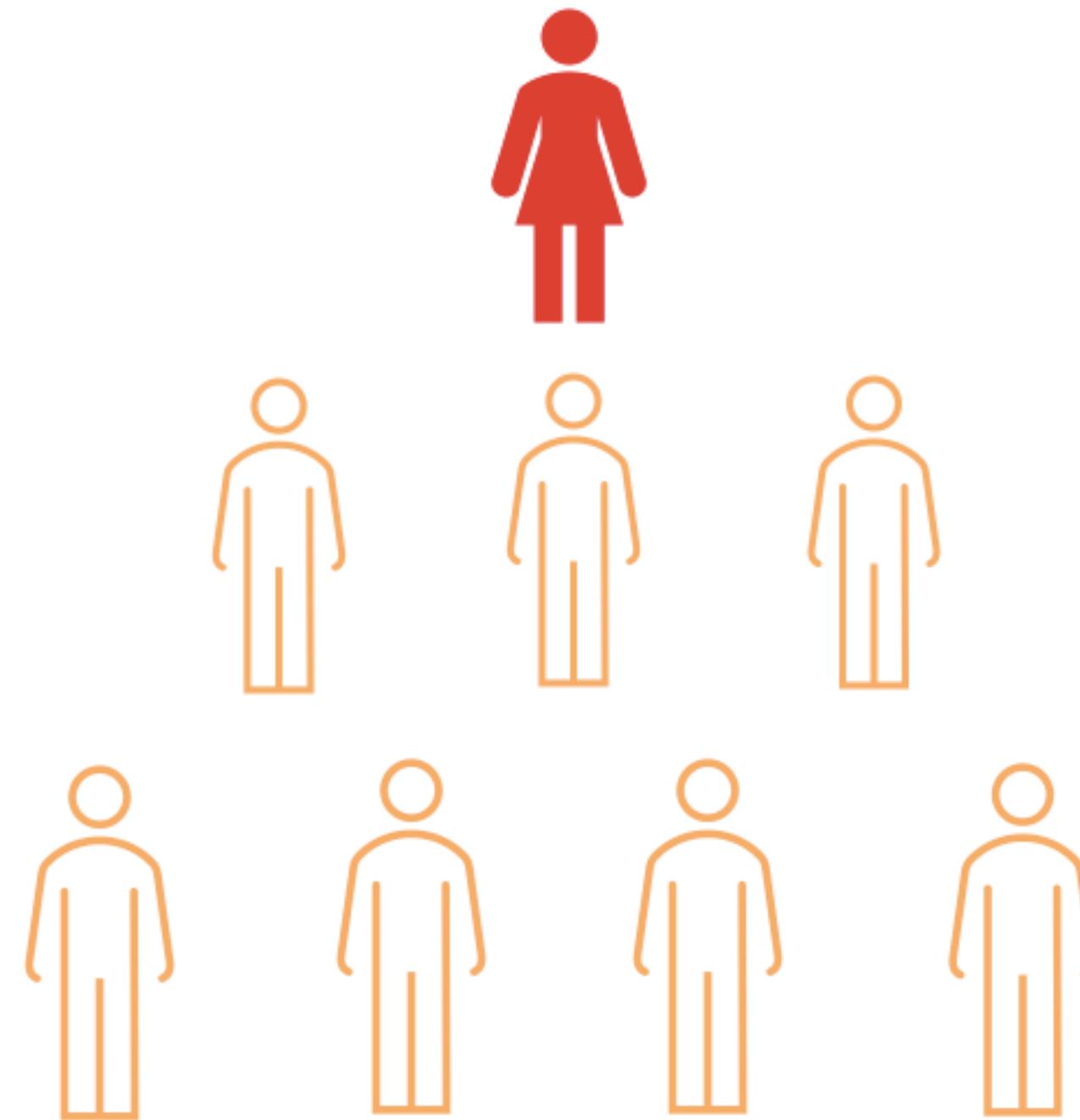
2019 Hourly URM Makerspace Usage Count



Design Specialist Demographics

Important question:
Does the lack of representation in specialists contribute to the low participation of URM s?

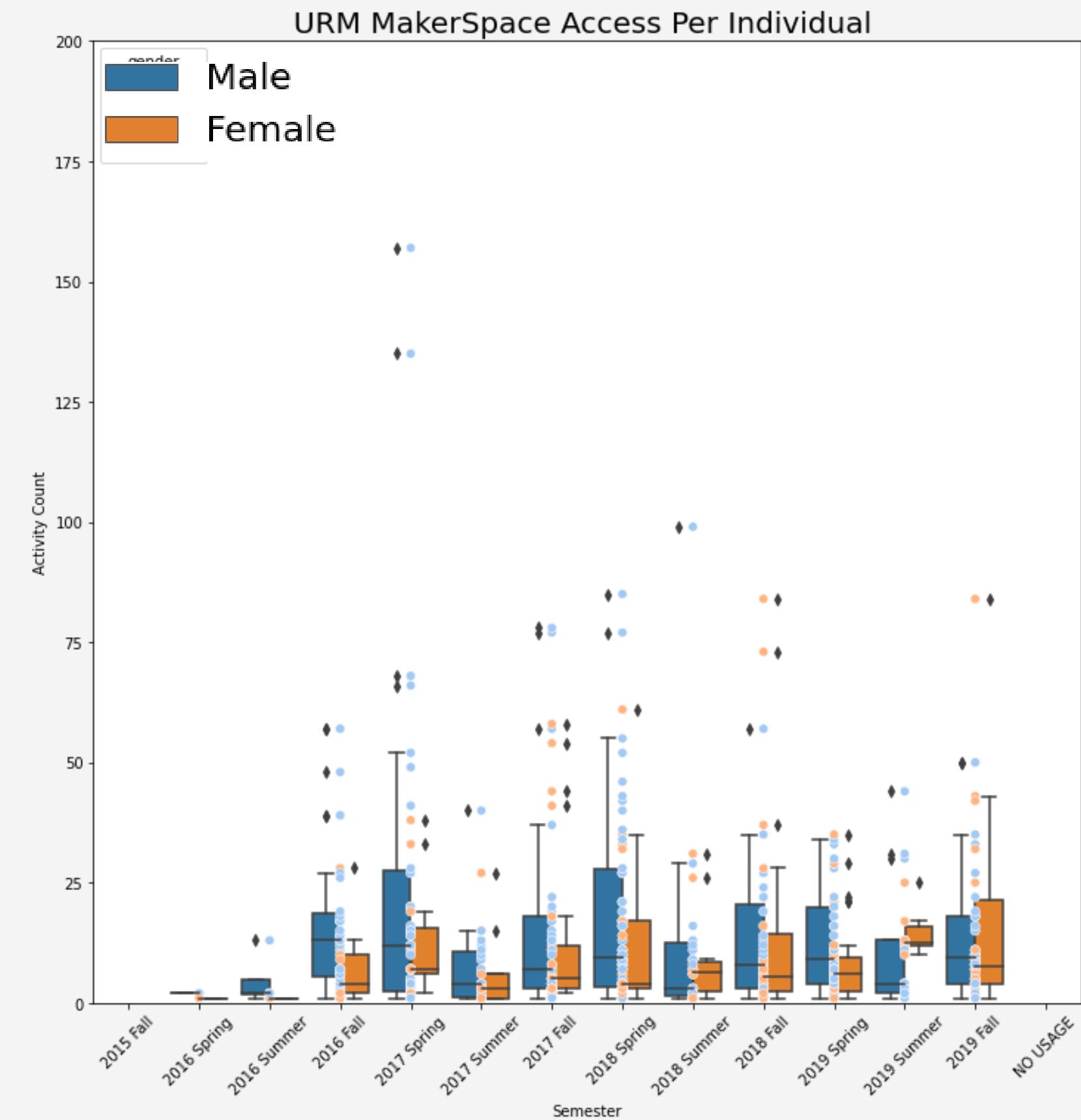
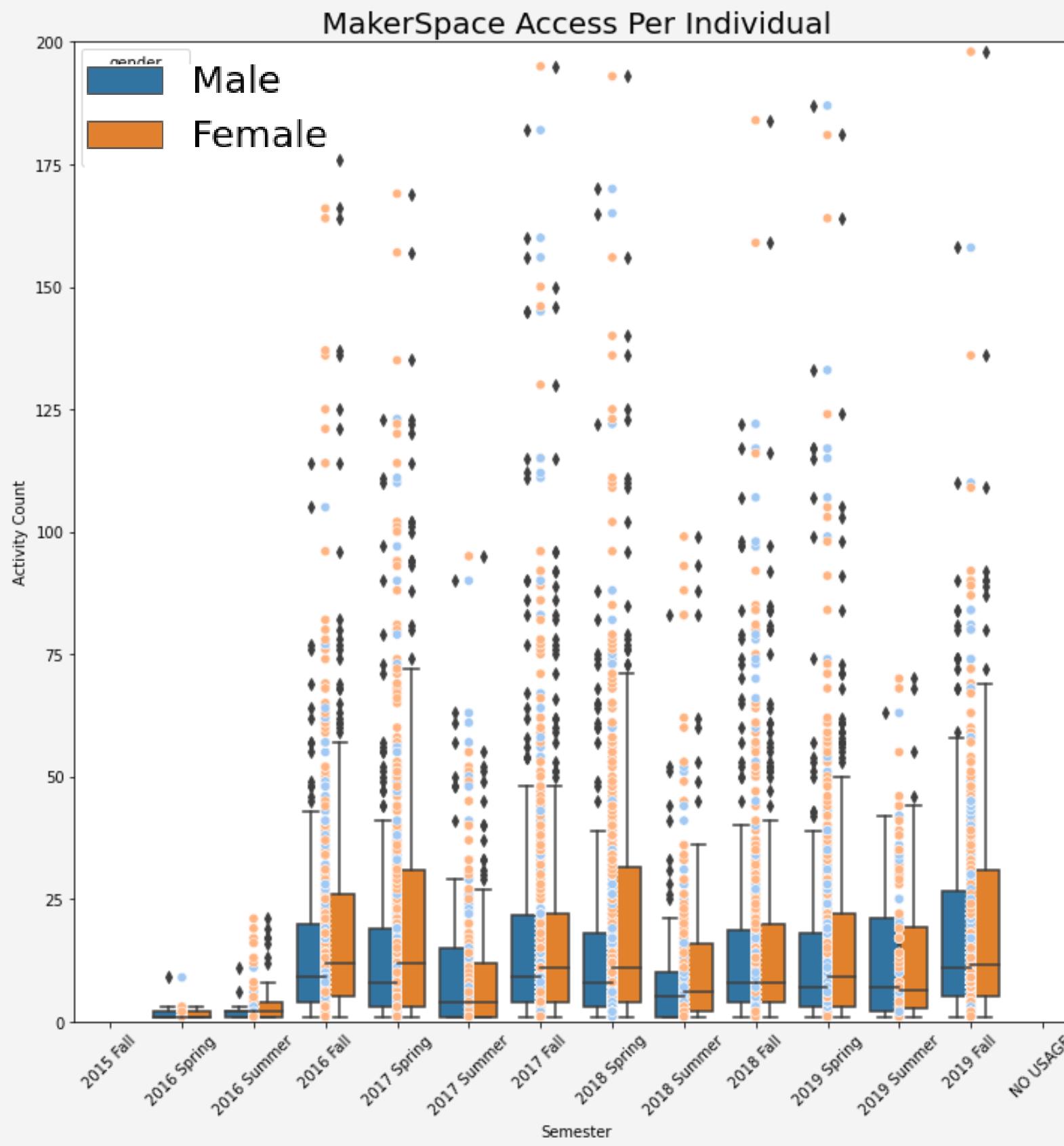
Currently, only 1/4 Design Specialists are Female



0/4 Design Specialists are URM s

*Zoomed in

Makerspace Activity: Access

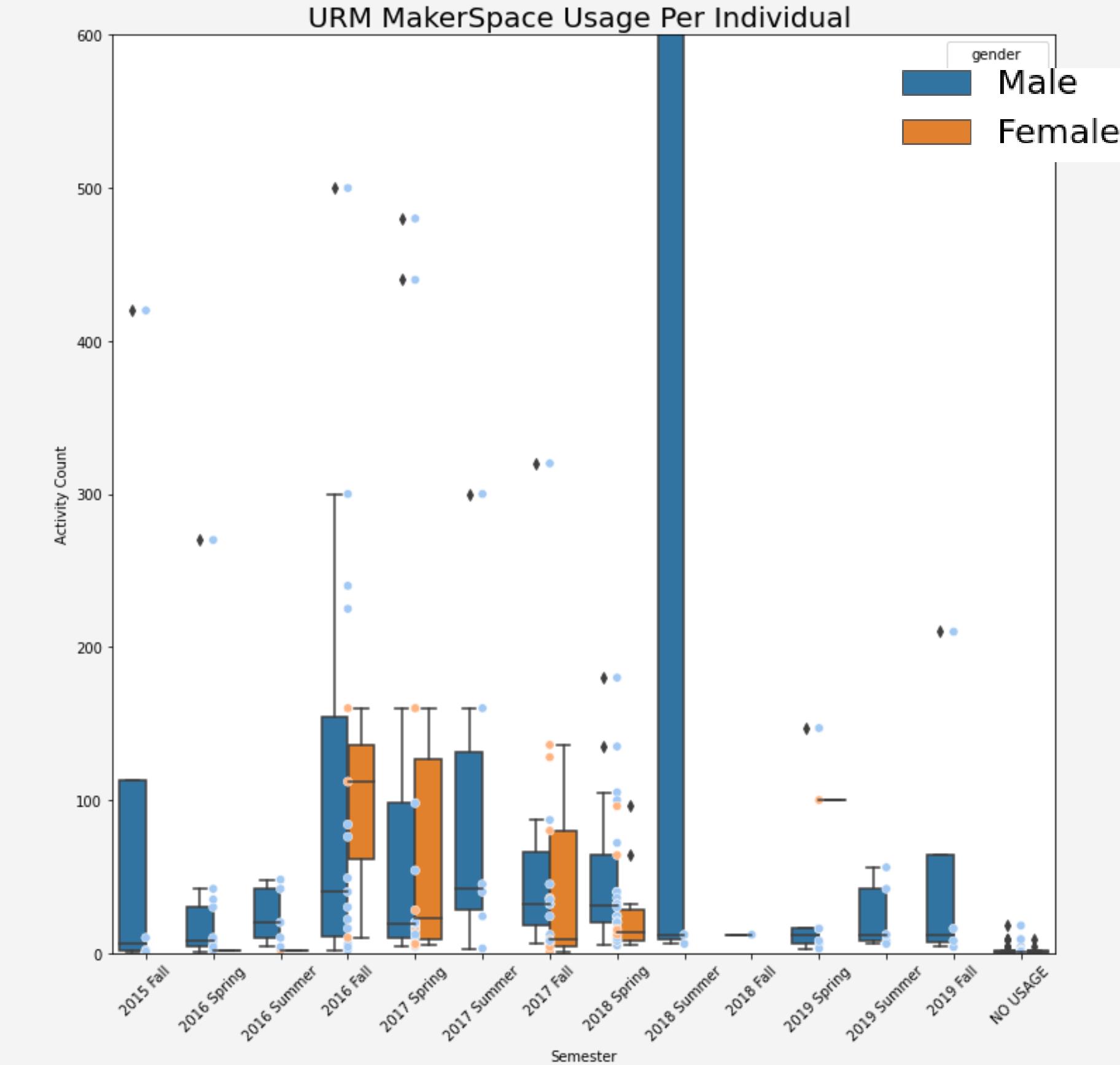
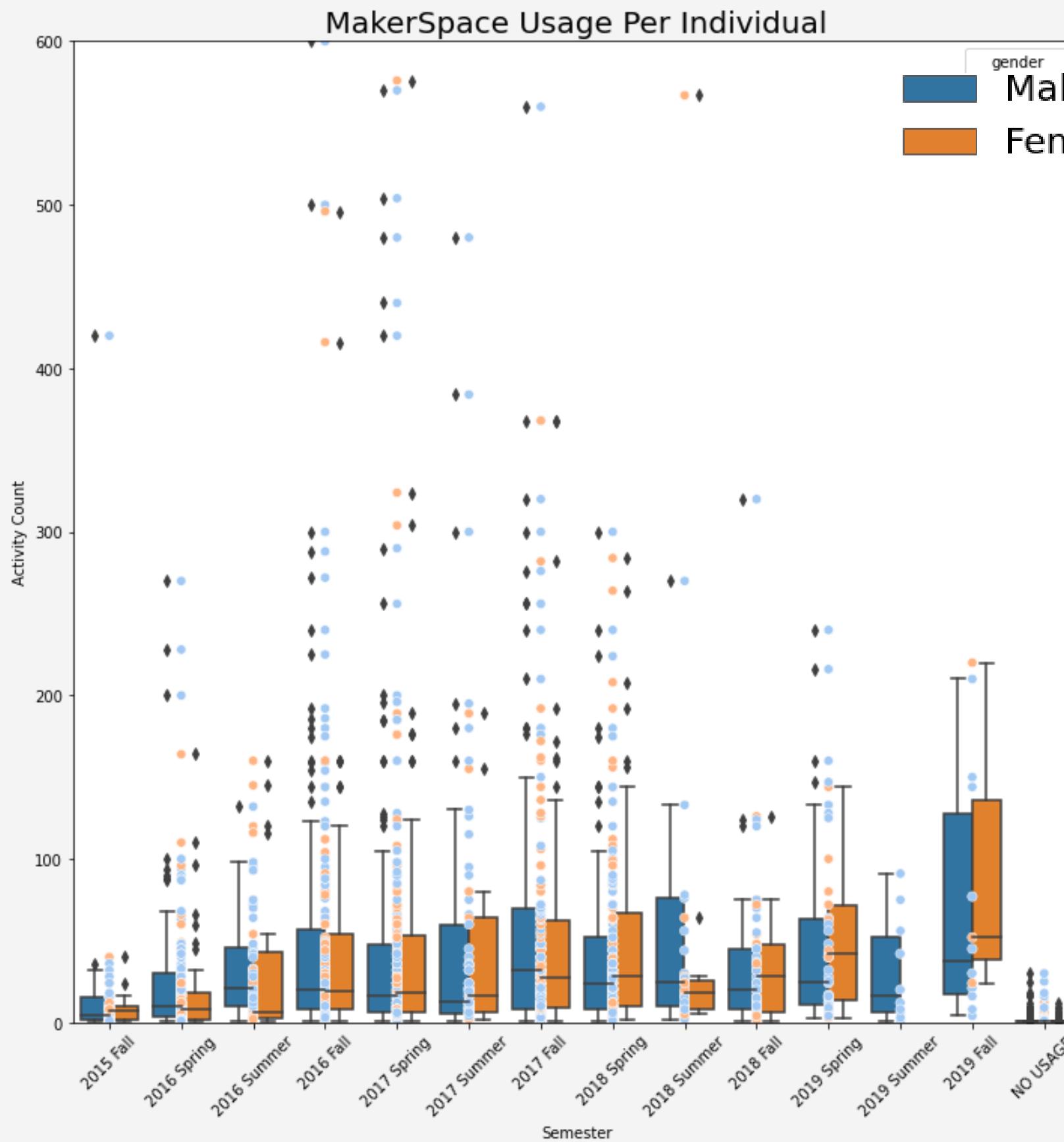


Makerspace Activity: Equipment Usage

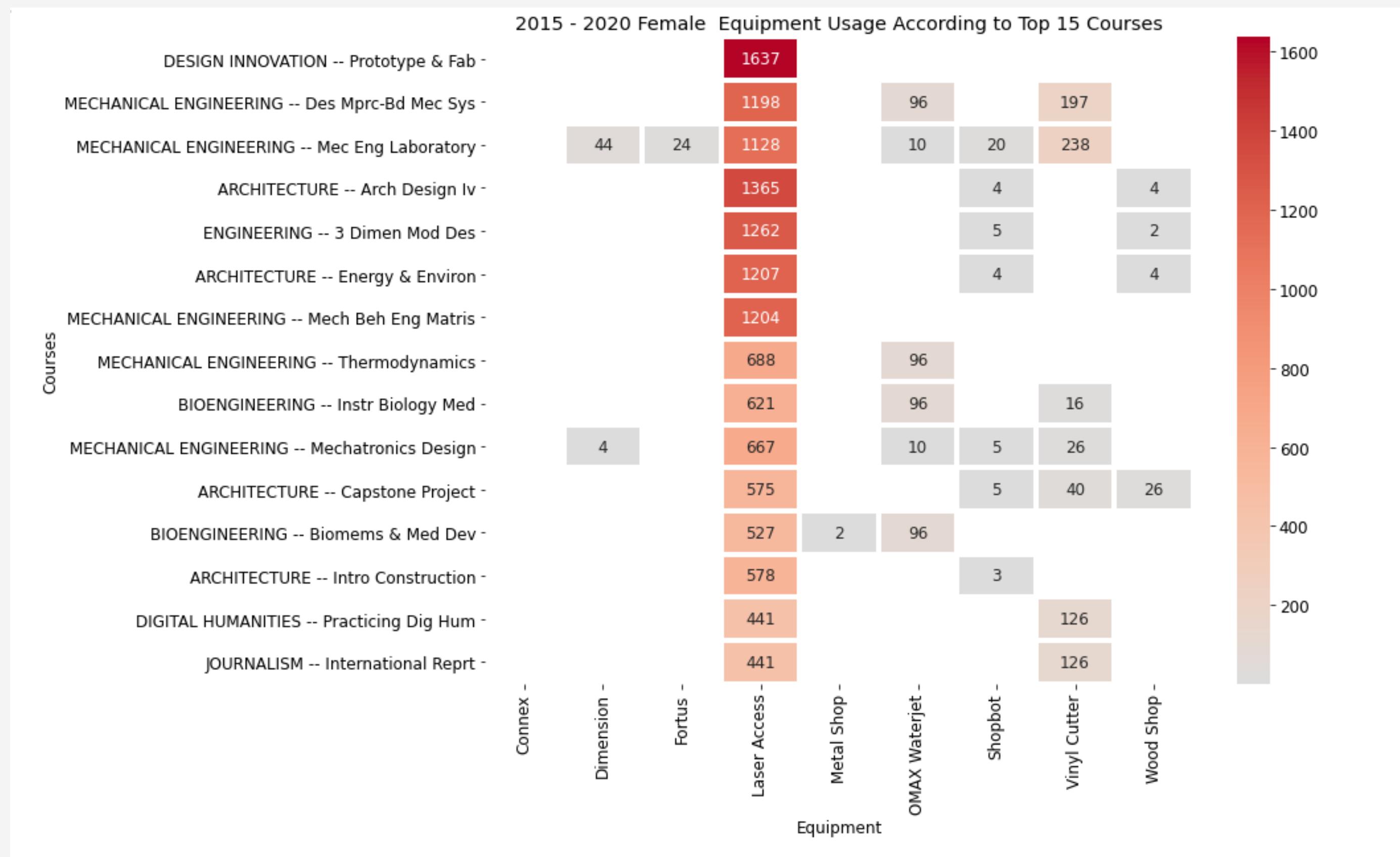
Jacobs Laser Access	31291
Jacobs Vinyl Cutter	1298
Jacobs Dimension	1045
Jacobs OMAX Waterjet	824
Jacobs Metal Shop	798
Jacobs Fortus	632
Jacobs Connex	624
Jacobs Shopbot	589
Jacobs Wood Shop	369
Jacobs FabLight Laser	188
Jacobs DiWire	43

Makerspace Activity: Equipment Usage

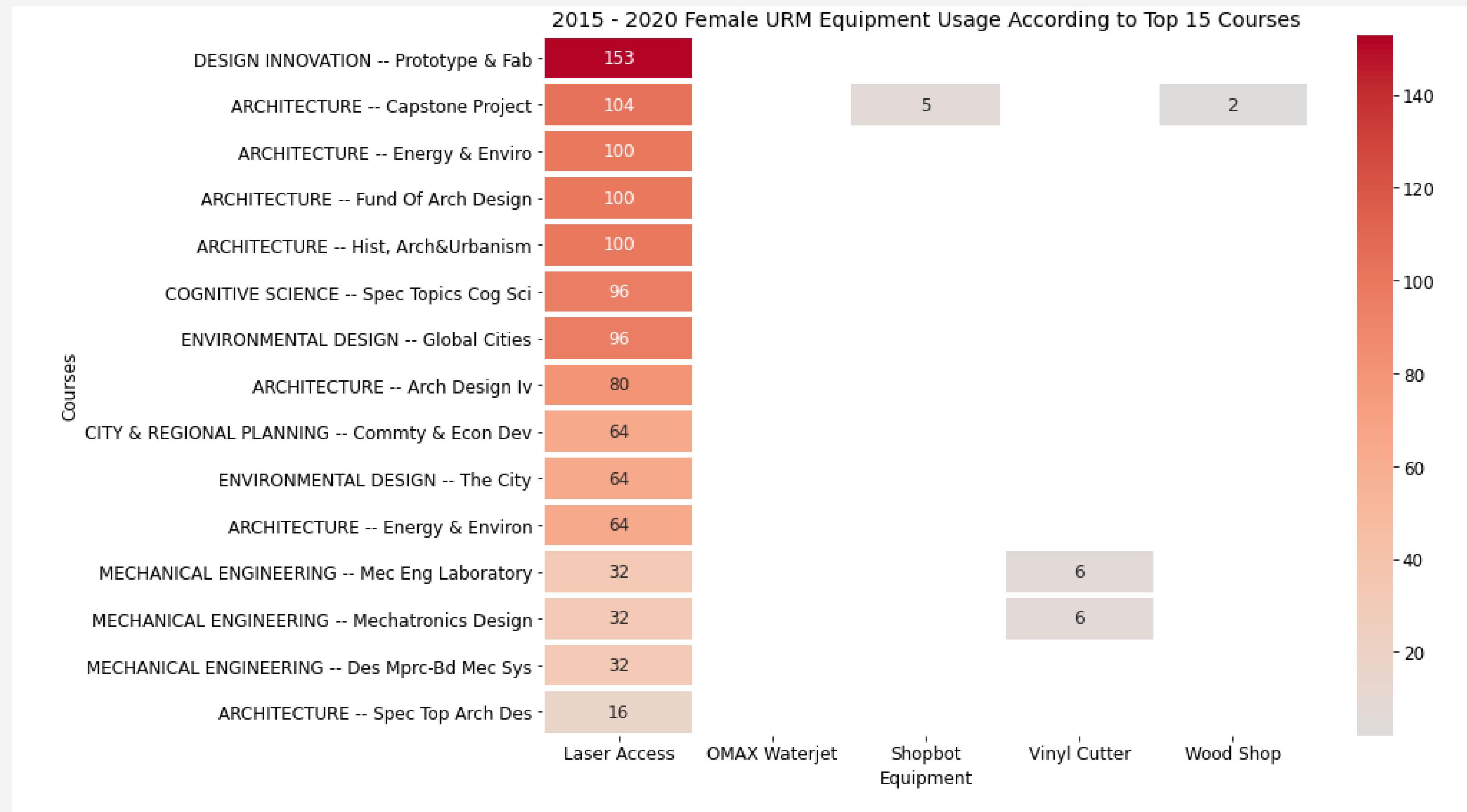
*Zoomed in



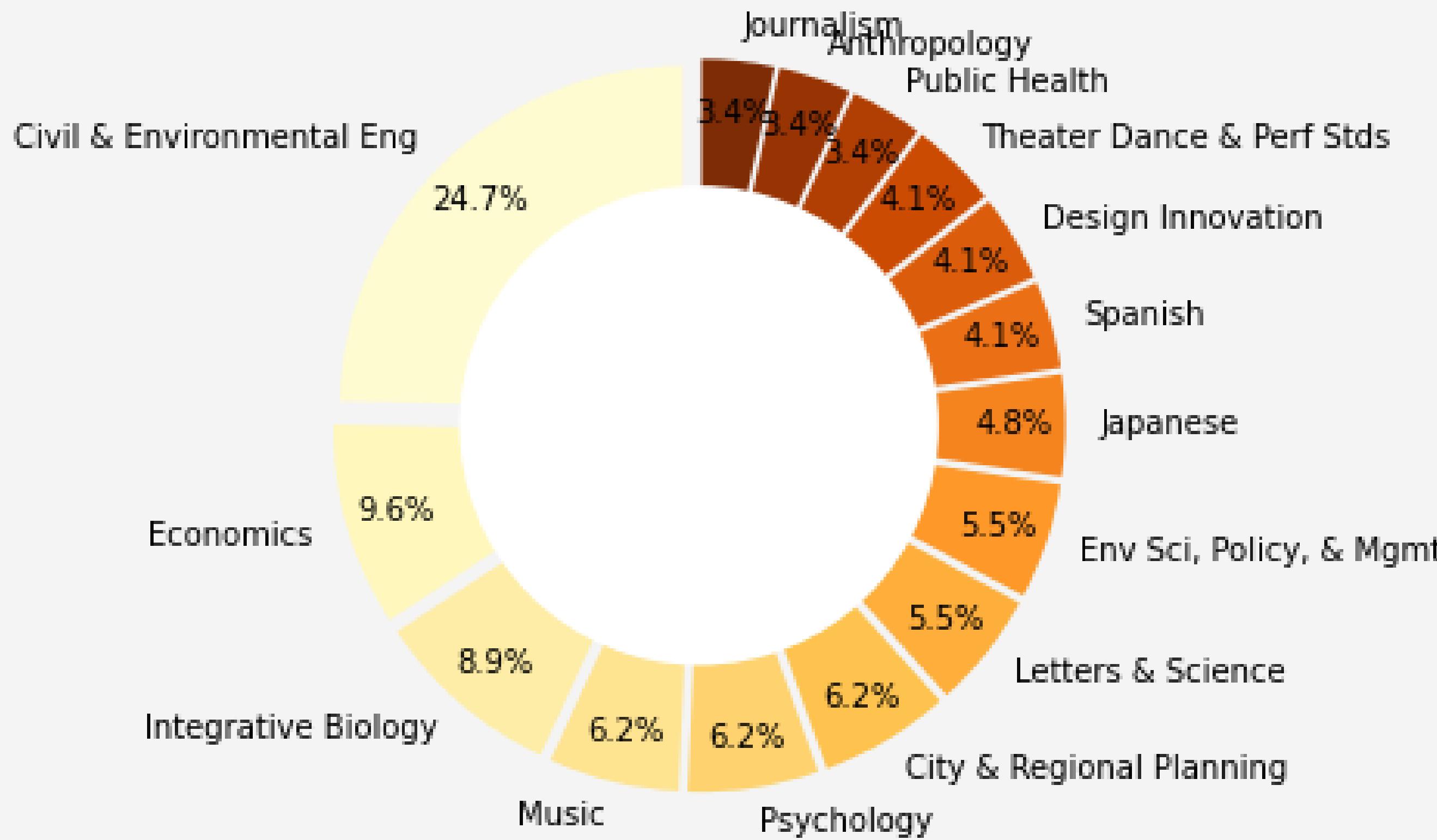
Female Equipment Usage: Top 15 Courses



Female URM Equipment Usage: Top 15 Courses

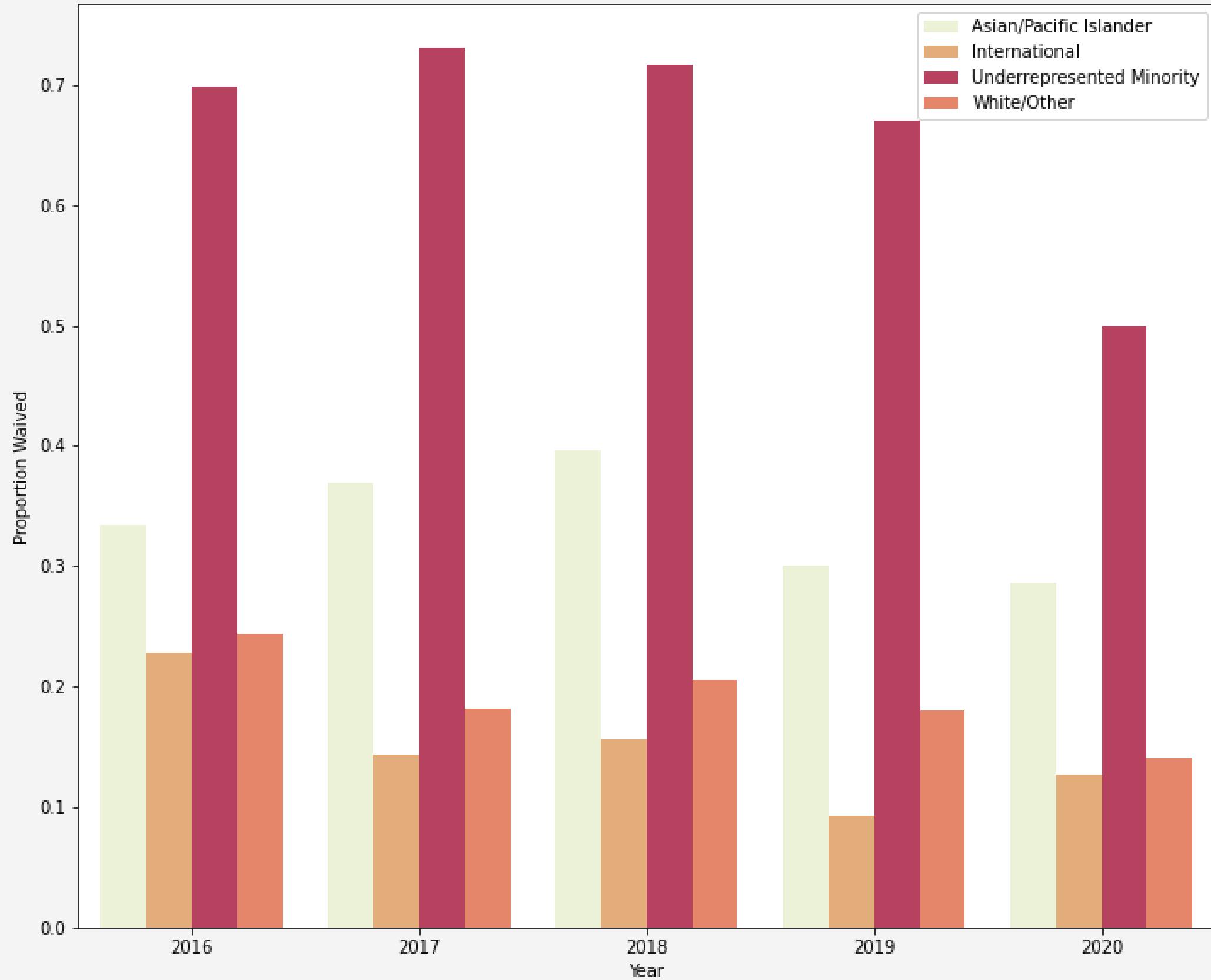


Female Makerpass Holders with Waiver but No Usage

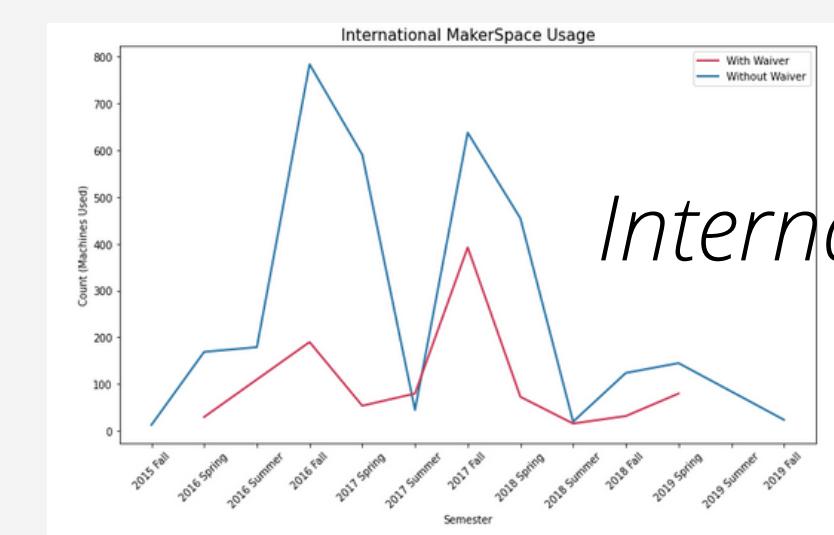
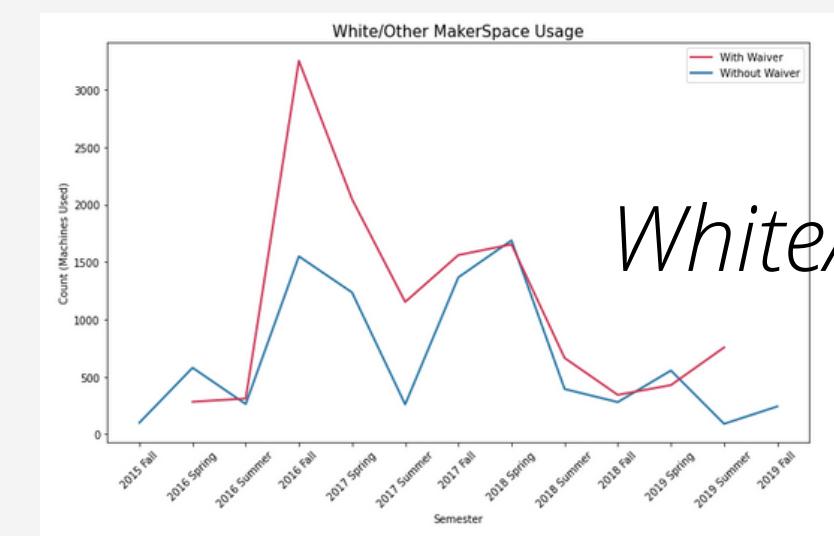
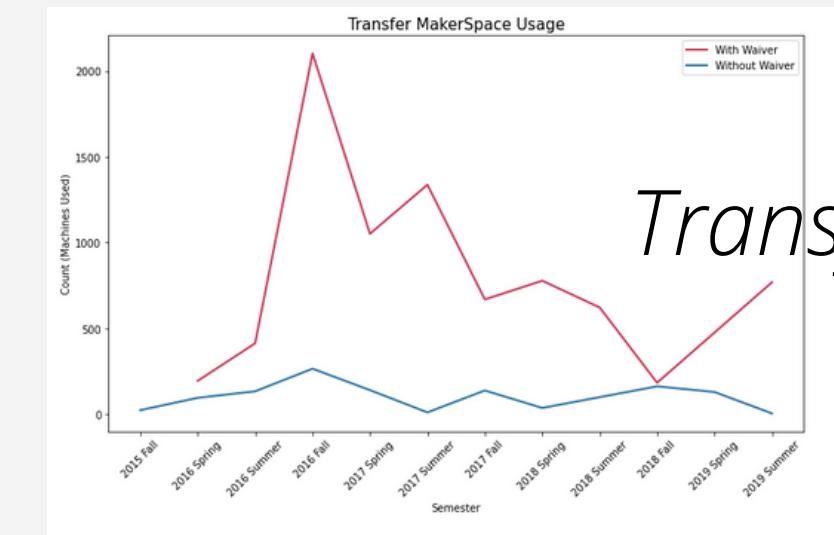
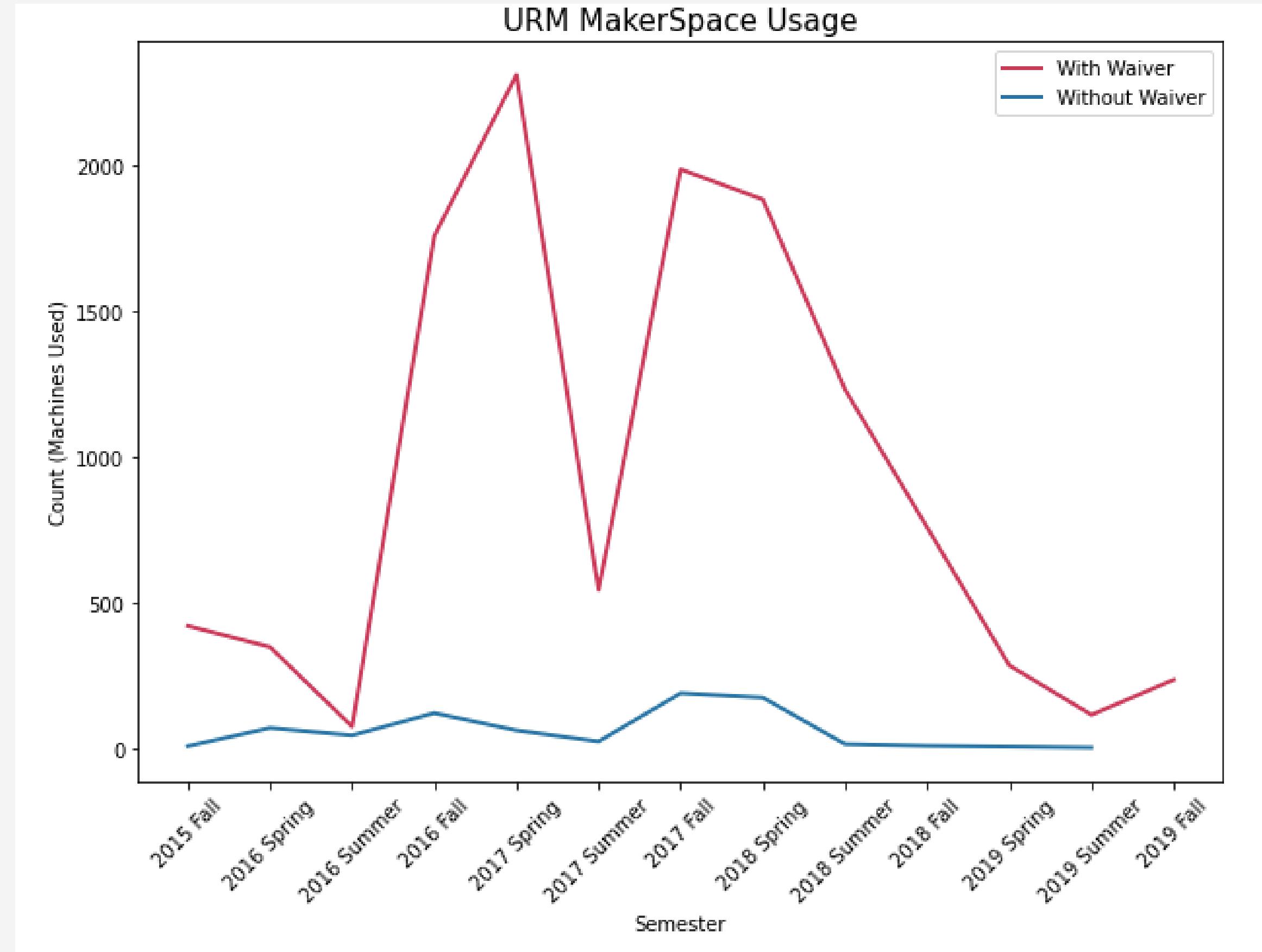


Waivers

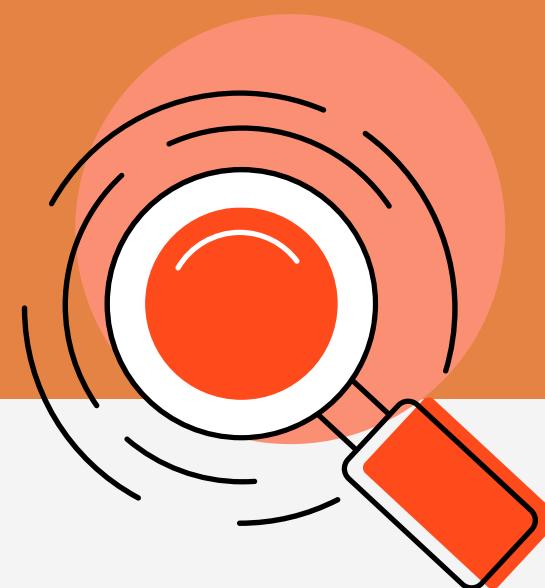
Proportion of Waivers Among Ethnicity



Makerspace Activity: Waivers



Makerspace Insights and Takeaways



- 1** Reserved Appointment Slots: Allotting Specific Appointments Slots for URMs and women
- 2** Partnerships: Creating a partnership with Educational Opportunity Program, who cater to low income, first-gen, and historically underrepresented students
- 3** Waiver: Encouraging more URM students to apply for waivers
- 4** Courses: Working closely with and offering more support for courses that are popular among female students

Insights and Summary

Jacobs As A Whole

- There is significant room for improvement in diversity at Jacobs.
- Jacobs users (without waivers) are significantly wealthier than the rest of the student body

BCDI

- There is more diversity in the cohort pursuing the BCDI than the cohort who has completed it.
- Qualitative research must be done to confirm the reasons behind this.

Courses and Retention

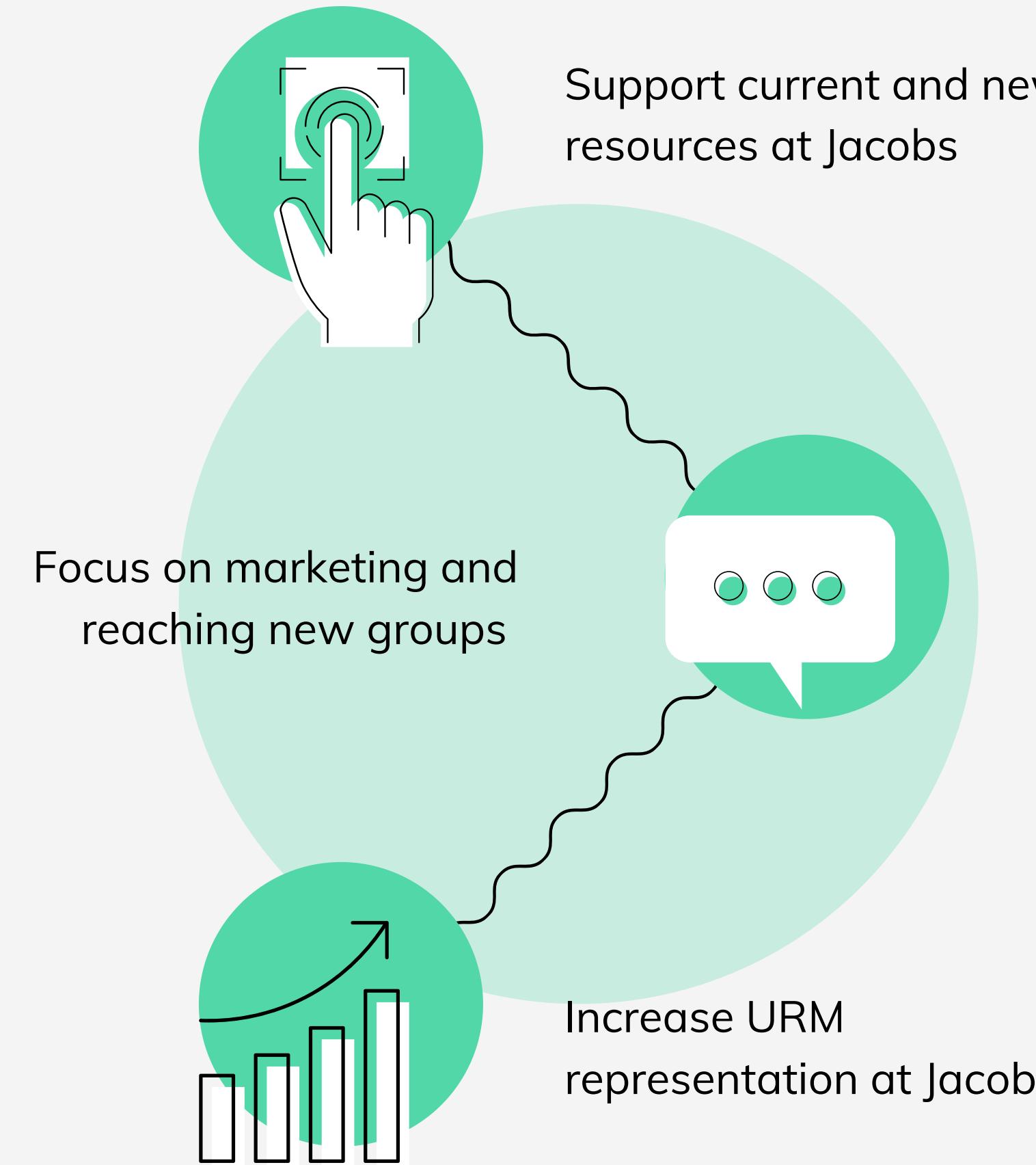
- DESINV courses have more women while engineering courses tend to have more men proportionally
- Engineering courses have higher retention

Makerspace

- Waiver: Encouraging more URM students to apply for waivers
- Partnerships: Creating a partnership with Educational Opportunity Program, who cater to low income, first-gen, and historically underrepresented students

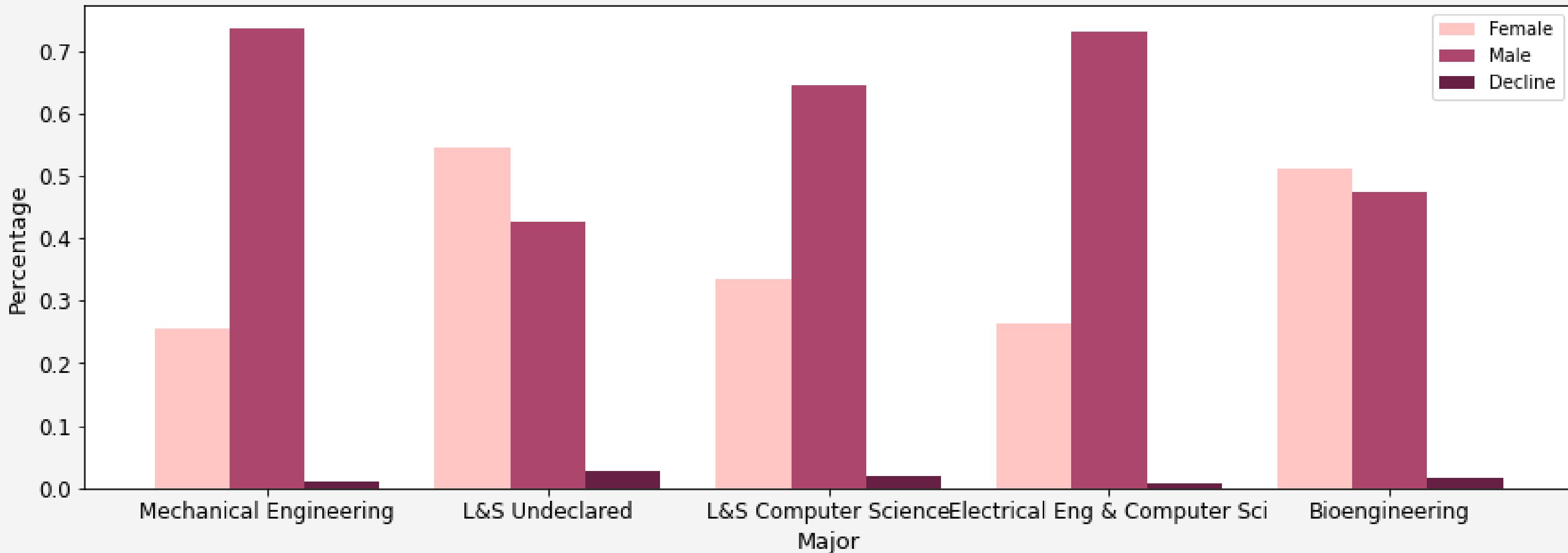
Future Insights

- Develop a Jacobs focus within BCDI course curriculum
- Continue/increase funding for waivers
- More publicity on design peers
- Design specialist training on working with URM
- Collaboration with SWE/URM clubs



**put your visualizations here if
u don't know where to put
them**

2020 Gender Rates in Top 5 Departments within Jacobs Community



THE ART BOX

EVERYTHING BEYOND THIS IS PART OF A TEMPLATE

PROJECT FOR MAXWELL INC

New Logo Identity

Promotional Material Templates

Set of graphic designs, illustrations & concepts for corporate materials

Overall Insights

1. Jacobs has lost hundreds of women and URM students from participating in its programs
2. Rising numbers of women and URMs have stagnated in recent years
3. Jacobs draws a homogeneous group of students from Berkeley

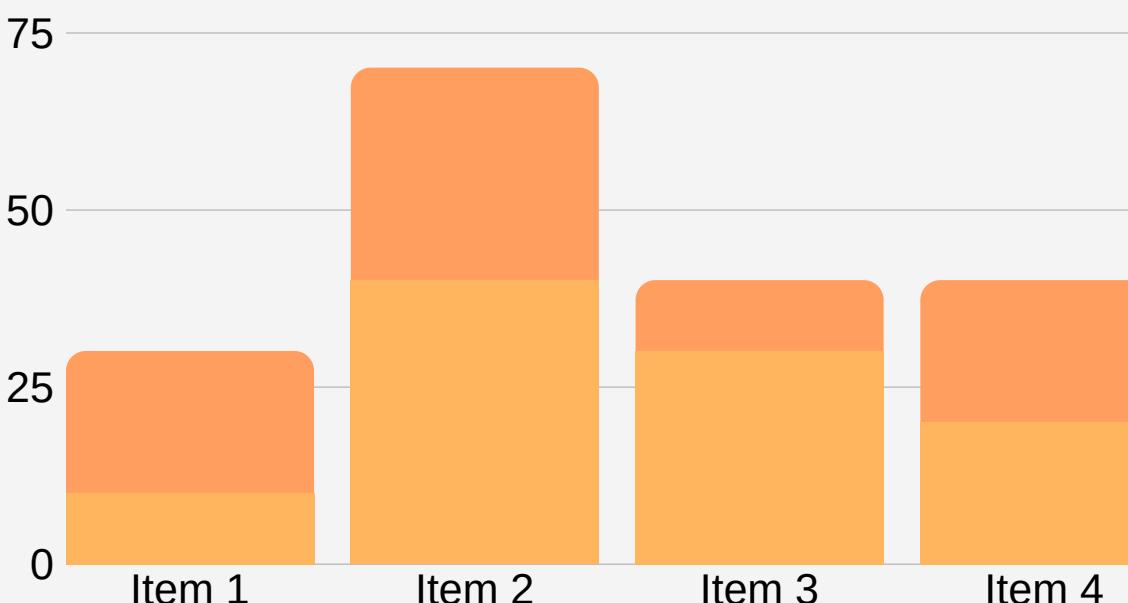
Further Questions

1. How is Jacobs being advertised to students?
2. Are there ways to make Jacobs more appealing to students that are not in its top majors?
3. What do we see in data that could increase the number of women and URMs at Jacobs?

\$5,000 monthly

Burn Rate

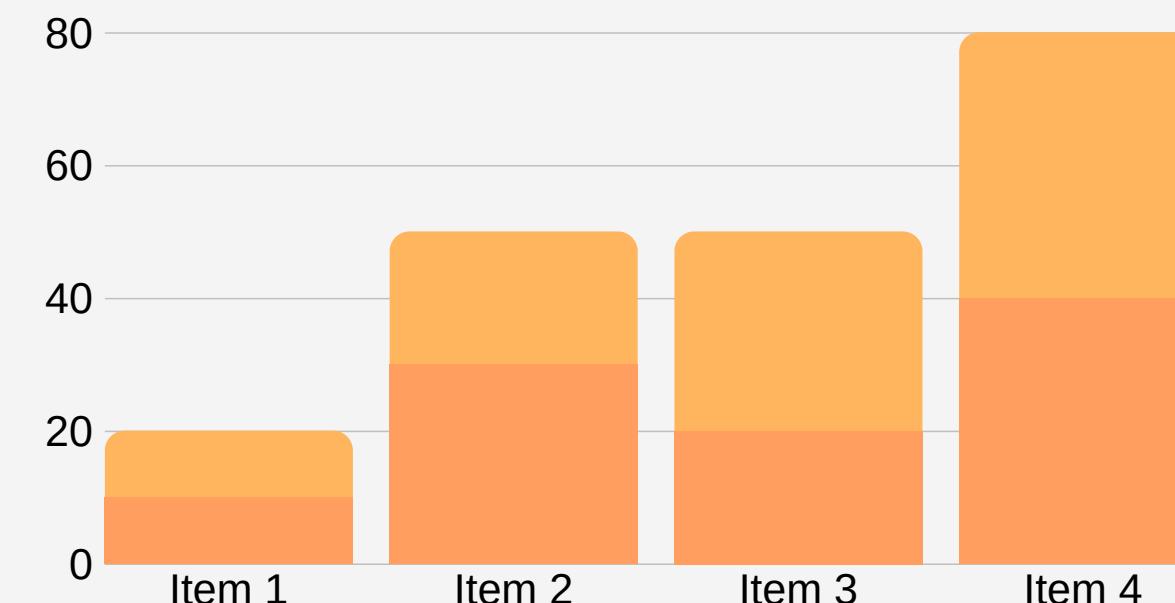
20 months runway



\$110,000

EBITDA

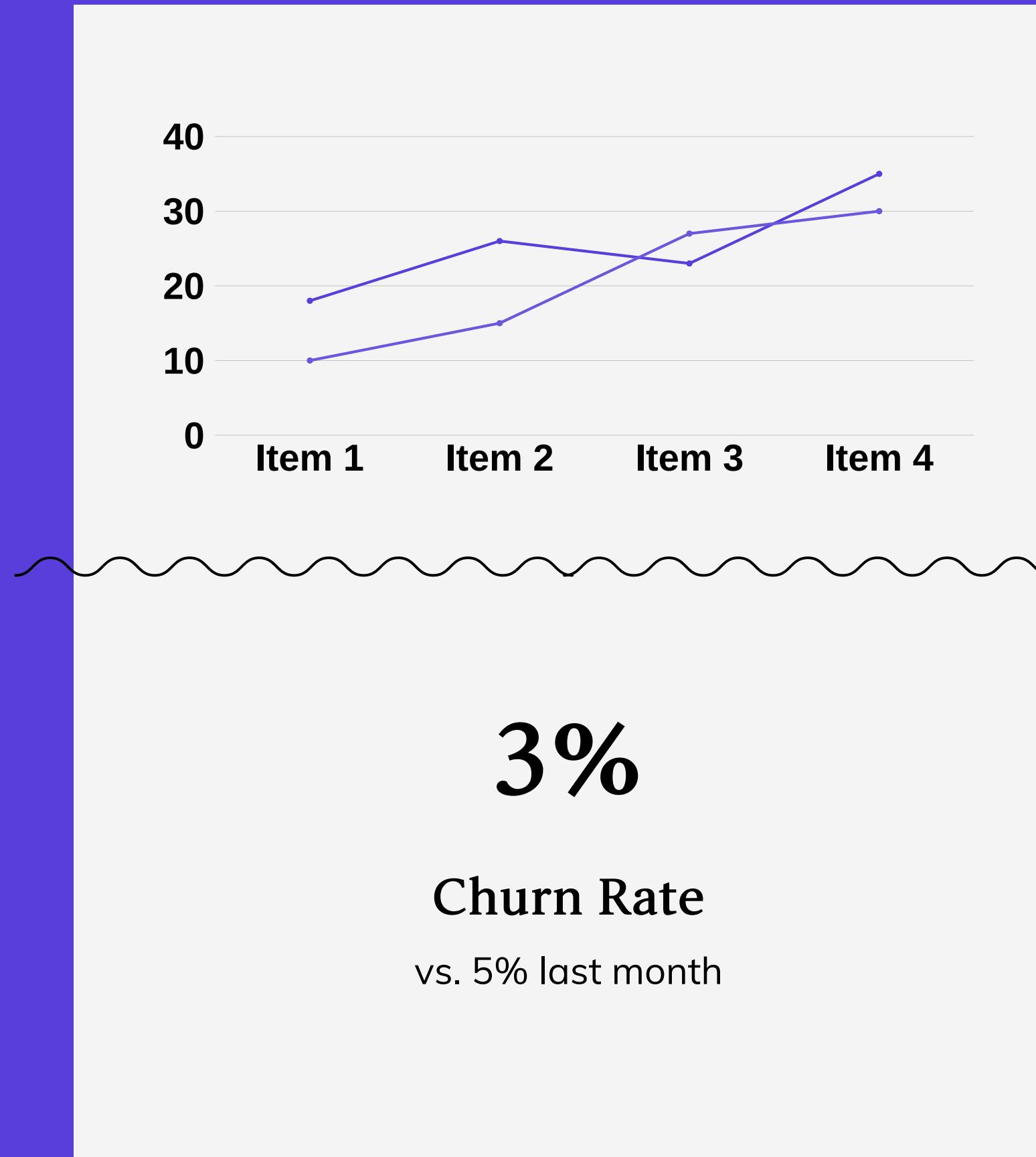
vs. \$95,000 last month



Traction

You may add charts and graphs to establish trends and to better illustrate the figures you are reporting.







150,000

Active users

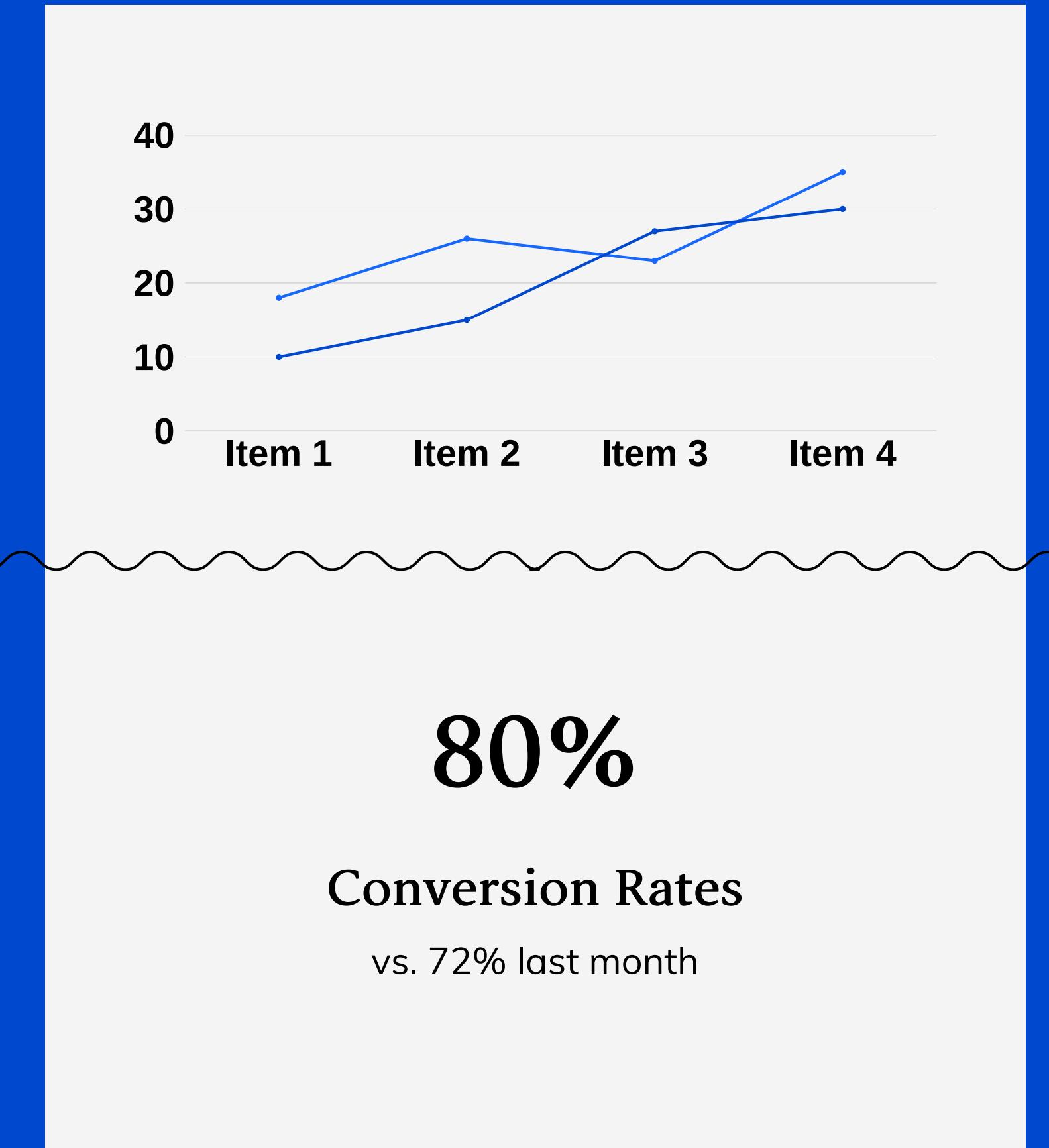
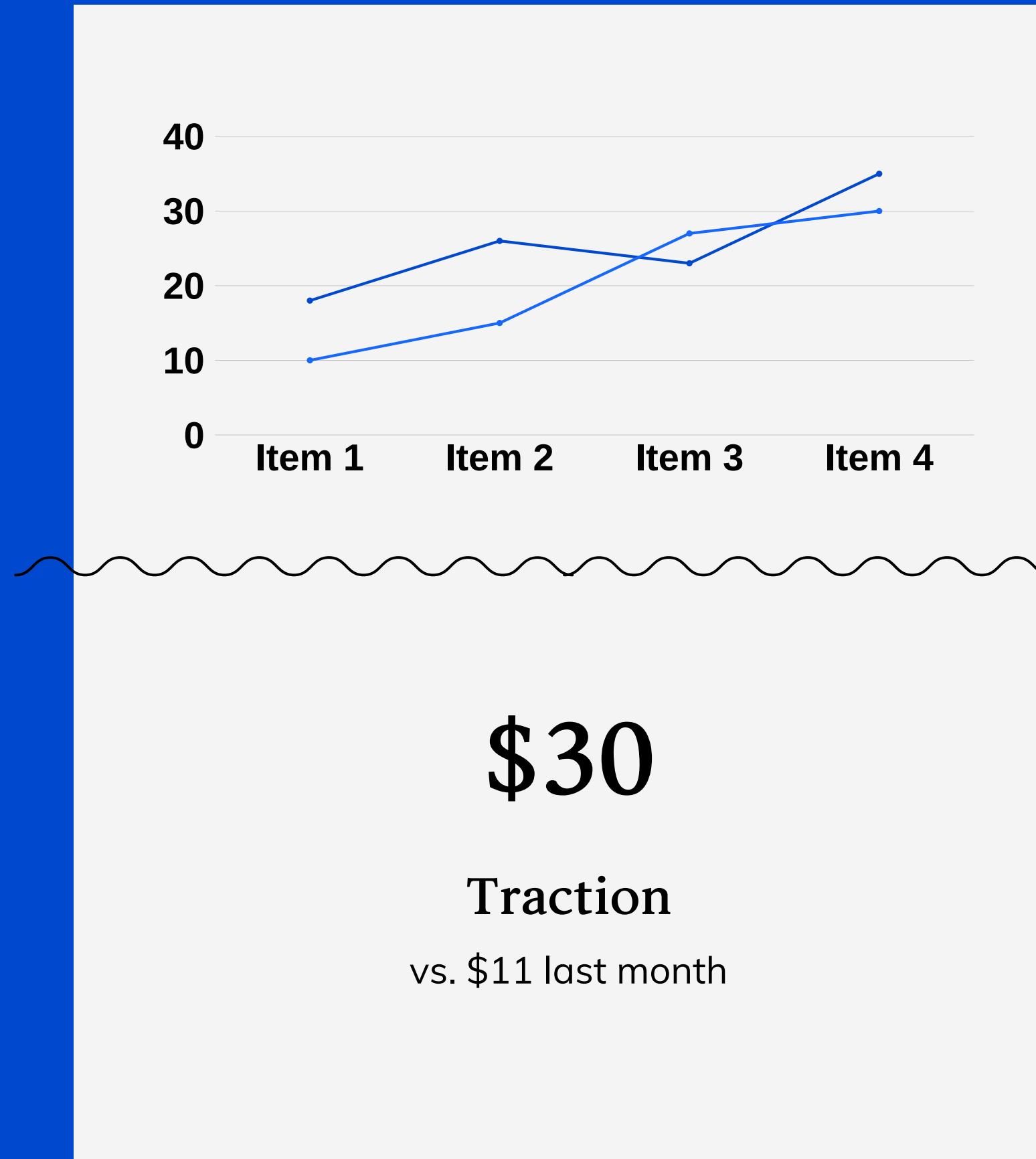
(+15% from last month)



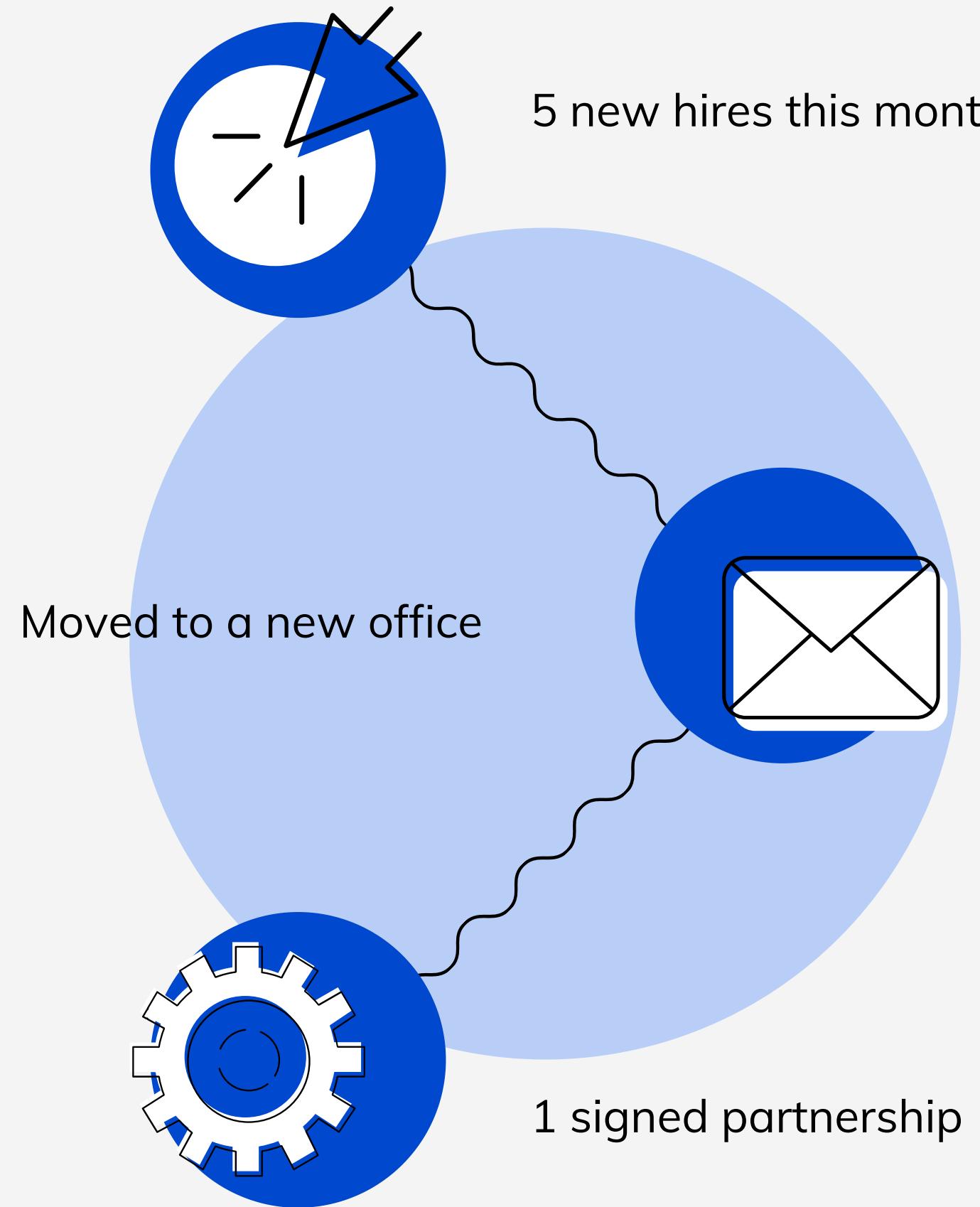
110,000

Paying users

(+20% from last month)



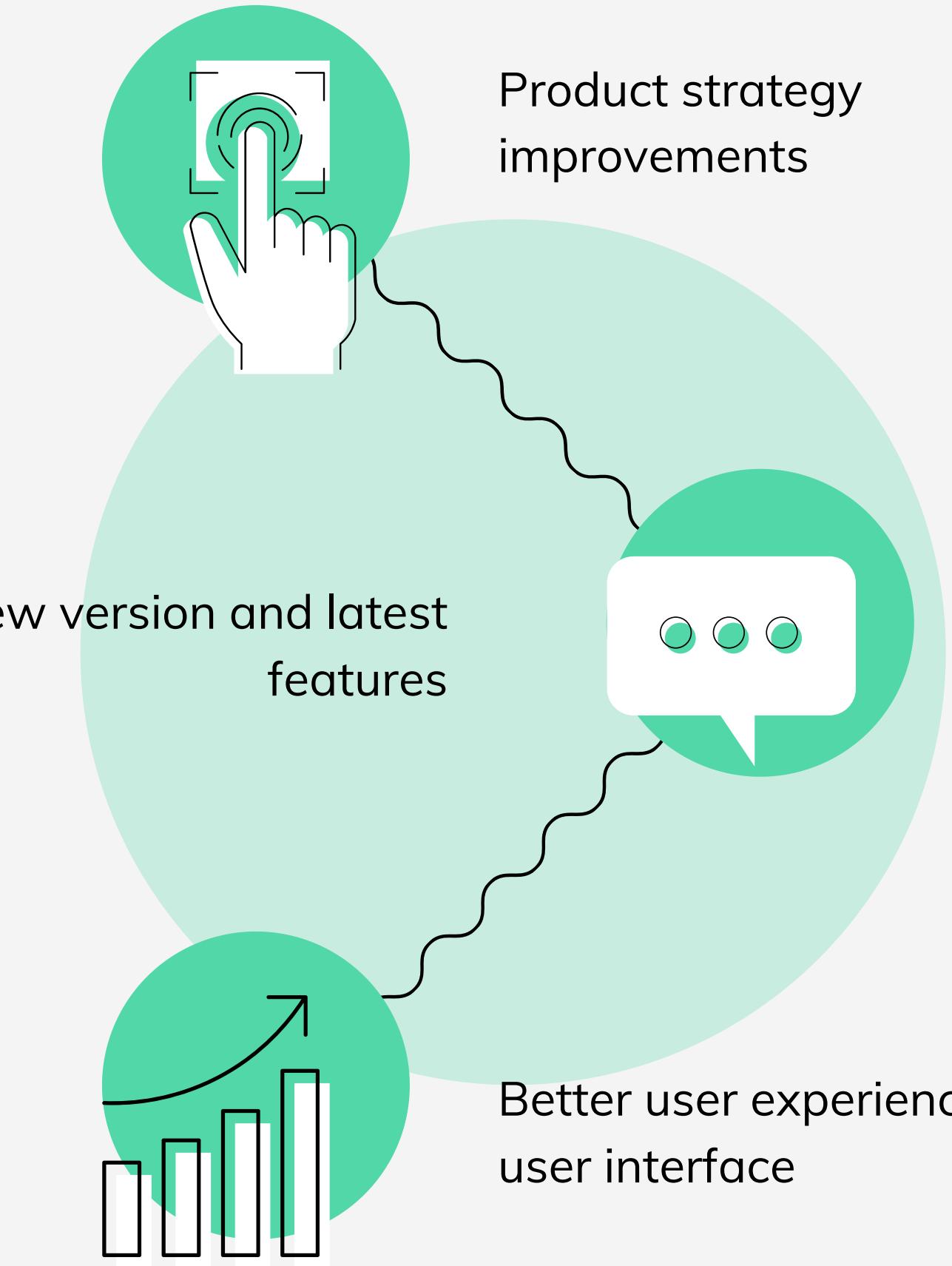
Company Updates



Your Company Name

Product Updates

Update your investors with recent innovations in your product. Add another slide if you need to give your investors more context about your recent product enhancements.

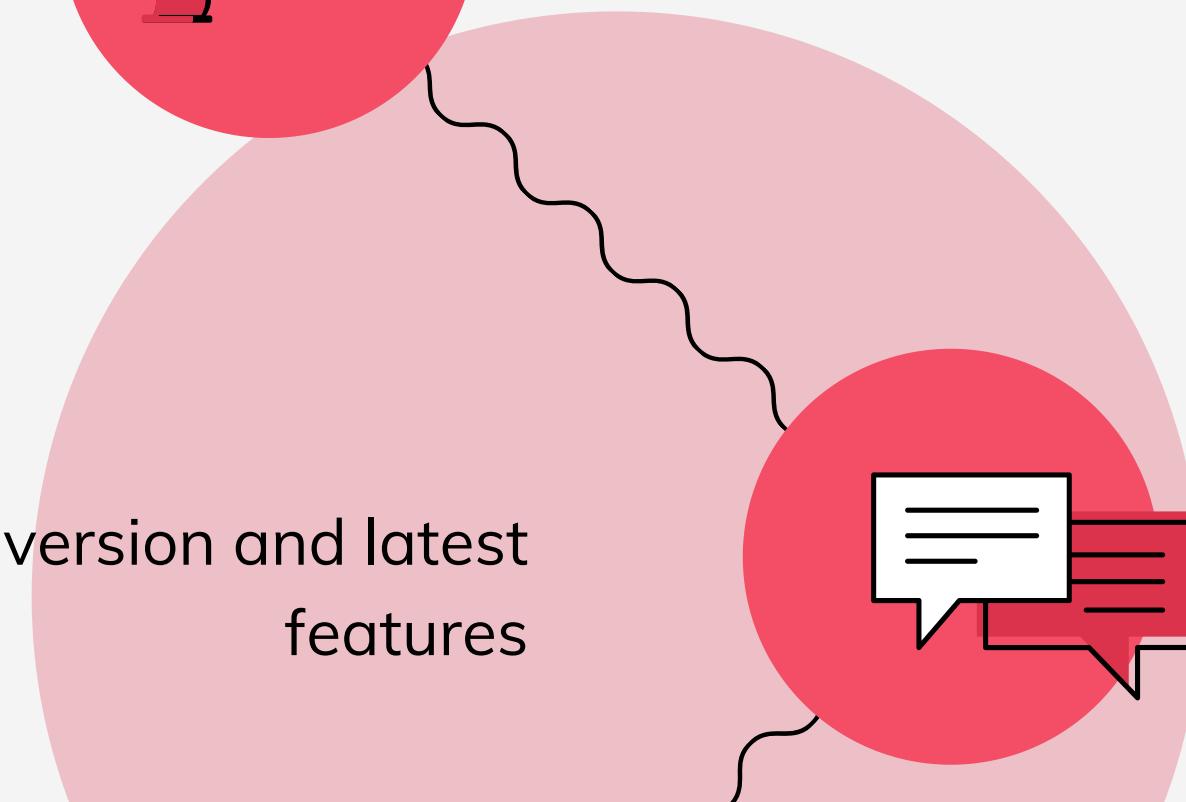


Additional Updates

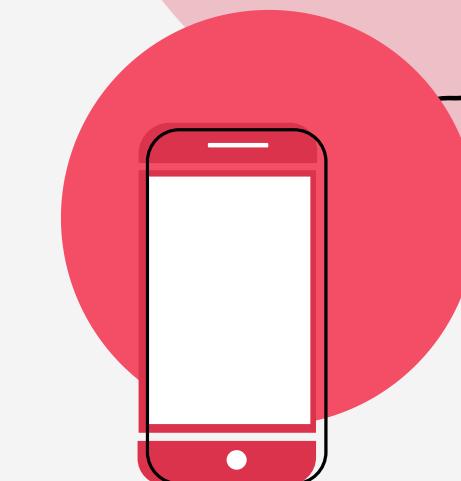
Use this space for anything you like to share with your investors.



Product strategy improvements



New version and latest features



Better user experience and user interface

1 Recruitment



2 Referrals and Intros



3 Feedback

Asks

Write the areas of your company you need help with from your investors. Be specific with your needs.

Your Company Name

Summary

Wrap up your investor update in two to three bullet points. You may also talk about your company's next steps for new goals or milestones. If there are other things you need help with or if you want them to know how many more months are left before you need to raise money or start making a serious profit, you can put them here.



Contact us

123-456-7890

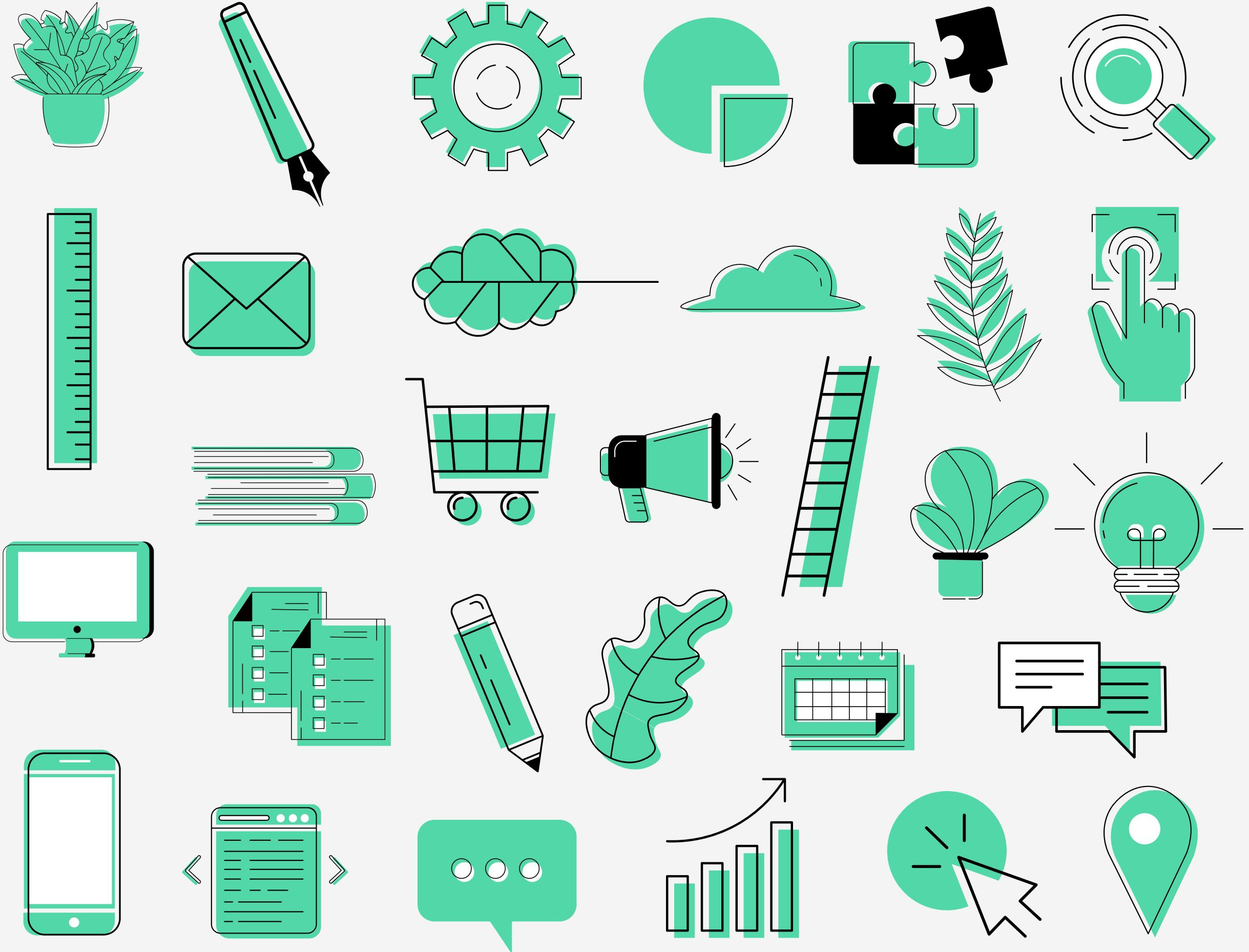
hello@reallygreatsite.com

www.reallygreatsite.com

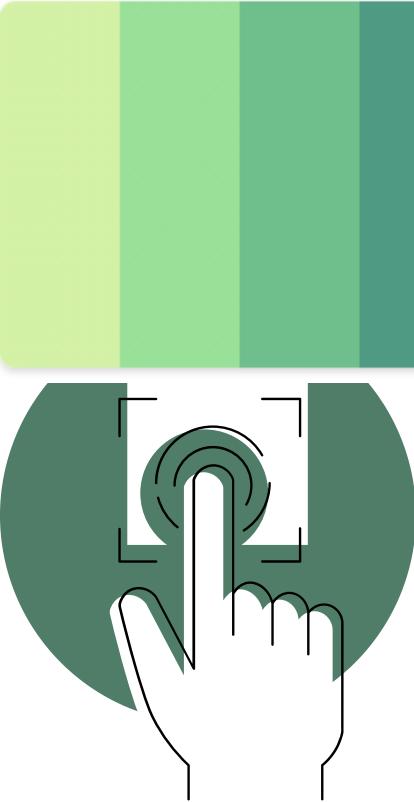


Free Resources

Use these free, recolourable icons and illustrations in your Canva design.



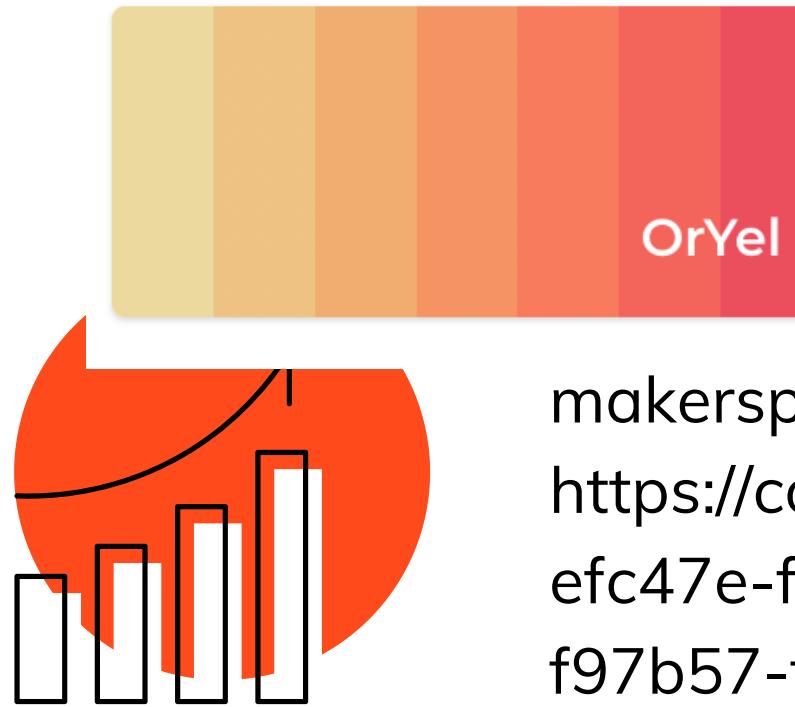
Color palette



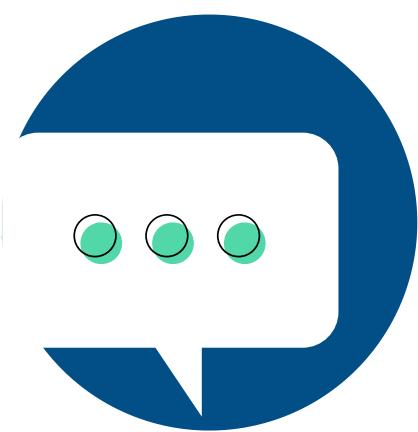
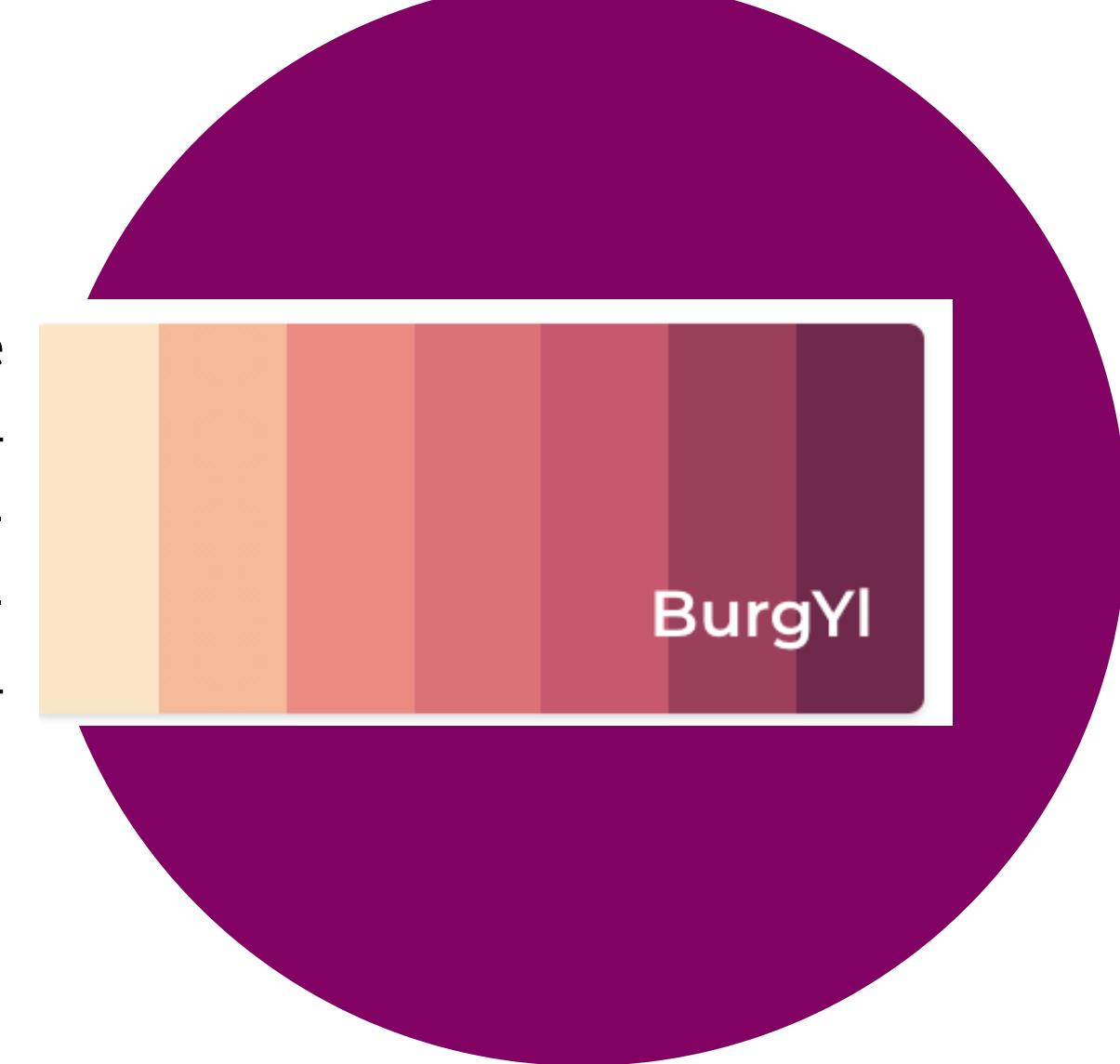
Emrld
courses in general
<https://coolors.co/d3f2a3-97e196-6cc08b-4c9b82-217a79-105965-074050>

Your Company Name

Jacobs as a whole
<https://coolors.co/ffc6c4-f4a3a8-e38191-cc607d-ad466c-8b3058-672044>



makerspace
<https://coolors.co/ecda9a-efc47e-f3ad6a-f7945d-f97b57-f66356-ee4d5a>



desinv specifically
<https://coolors.co/014f86-2c7da0-61a5c2-a9d6e5>