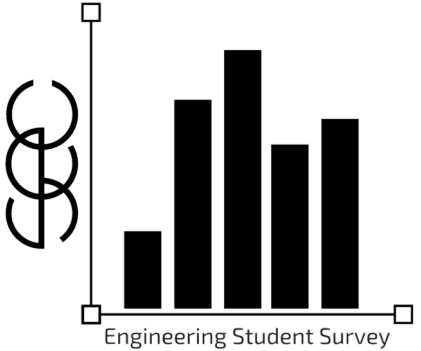
Texas A&M University®

Student Engineers' Council

ENGINEERING STUDENT SURVEY



Results Presentation

February 6, 2020

Survey Executive Summary

Mission

A primary mission of the Student Engineers' Council is to serve as the representative voice for the students within the College of Engineering. This survey seeks to communicate the student perspective to College of Engineering administration.

Survey Restructuring

In addition to large-scale reorganization of survey sections, many former open-ended questions were developed into multiple choice questions to aid with survey flow.

Survey Question Breakdown

Introduction/Demographic Questions – 13

Engineering Student Organization Questions – 5

Undergraduate Student Questions – 37

ETAM Questions – 6

Graduate Student Questions – 20

ZACH/Instructional Technology Questions – 20

International Experience Questions – 7

Career Fair Questions - 12

Post-Graduation Questions - 16

Survey Response Summary

6-Week Survey Period

October 31, 2019– December 11, 2019

5059 Total Responses

~26% of Engineering Student Body

(81% from Undergraduate Students + 19% from Graduate Students)

Survey Vetting

Working With TAMU's Public Policy Research Institute

This year we continued to work alongside the Public Policy Research Institute to vet the survey. Specifically, we worked with PPRI to help format the structure of the survey, remove wording bias from questions, as well as developing a comprehensive marketing approach.

"Each year, PPRI administers 100,000 phone, 300,000 mail, and 10,000 in-person survey interviews."

Source: https://ppri.tamu.edu/about-ppri/

Special Thanks

Dr. Andrea Ogilvie, *Assistant Dean for Student Success*

Dr. Anthony Cahill, *Director of Freshmen Engineering Program*

Dr. Kirby Goidel, *Public Policy Research Institute*

Mallory Smith, *The Association of Former Students*

Abhi Dhillon, *SEC President*

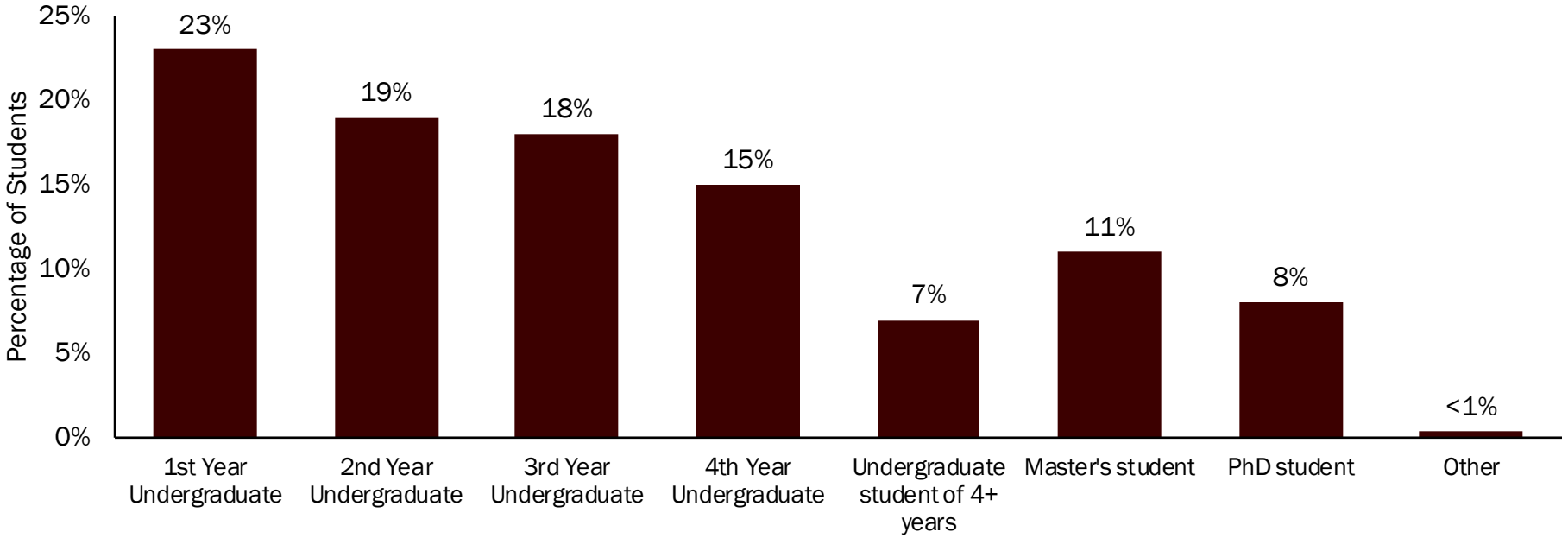
Justis Morales, *SEC VP Internal*

Introduction/Demographic Questions

Asked to all students

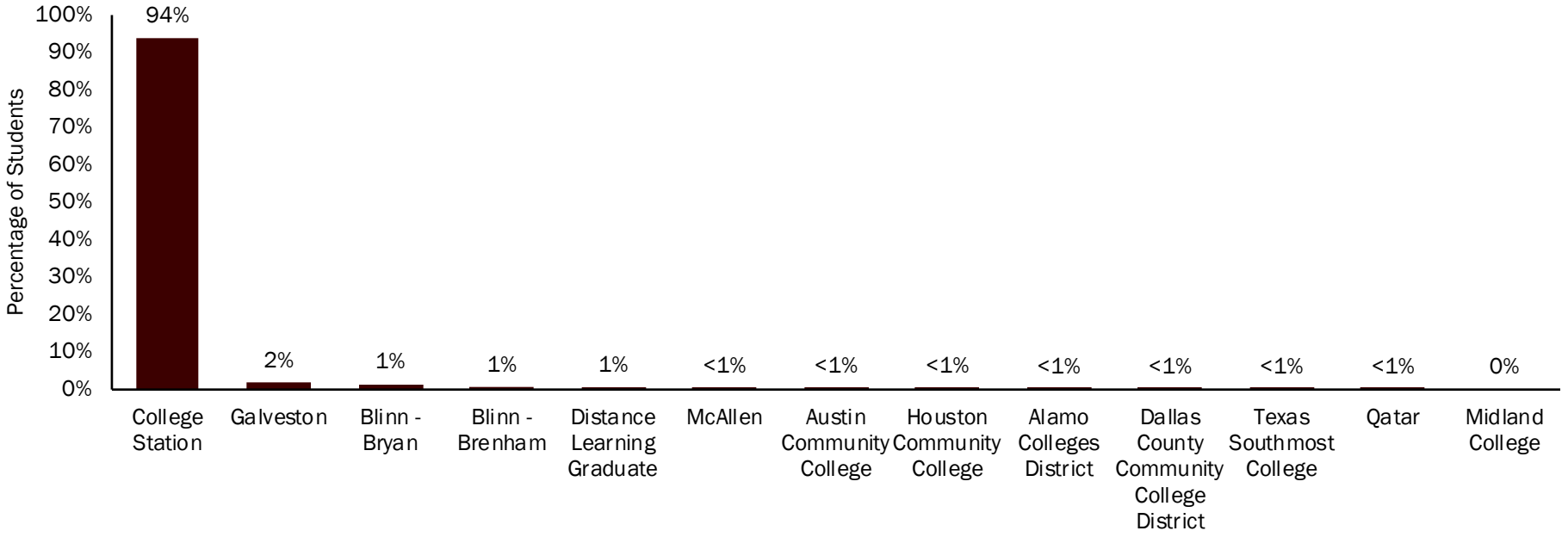
Responses: 4847

Which of the following most accurately represents your class year at Texas A&M University?



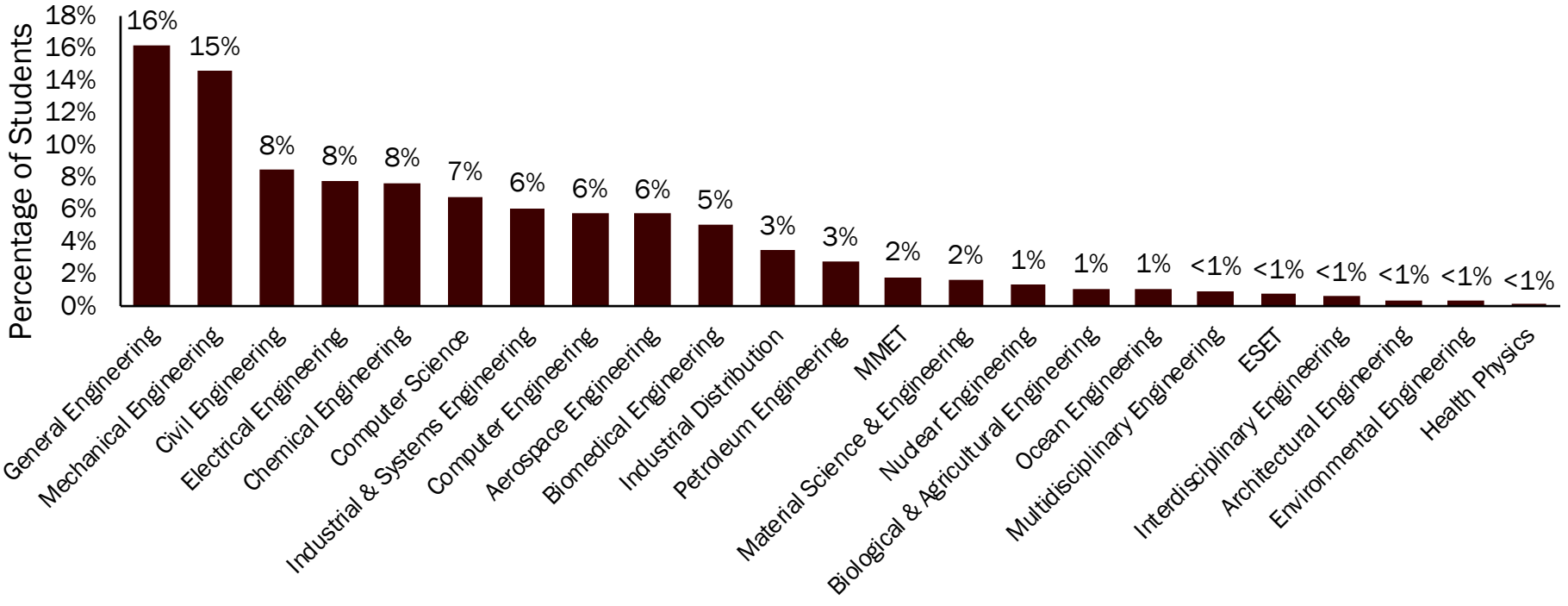
Responses: 4847

At which campus do you take the majority of your courses?



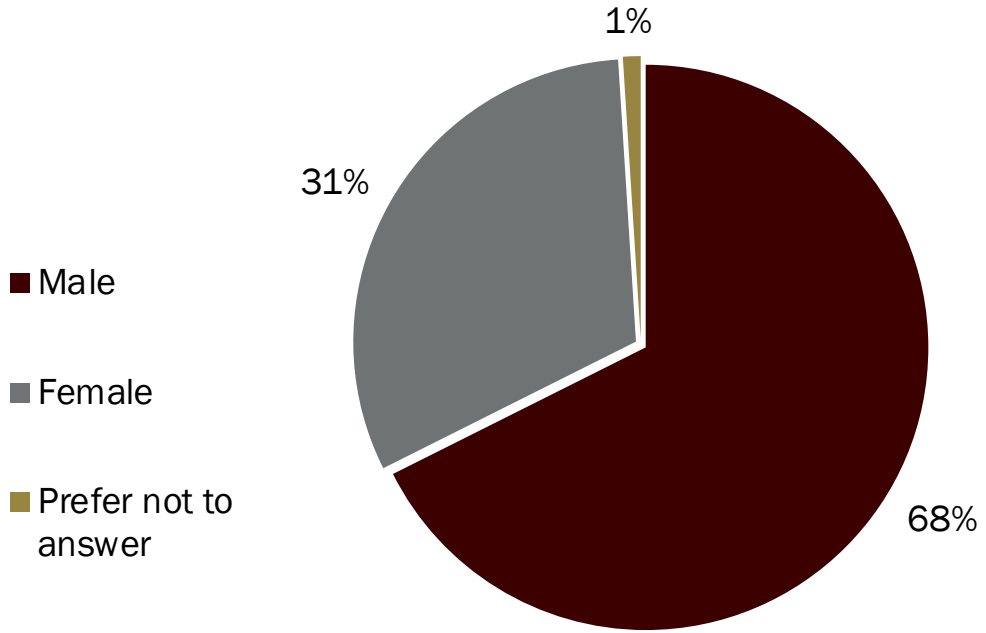
Responses: 4847

What is your major?



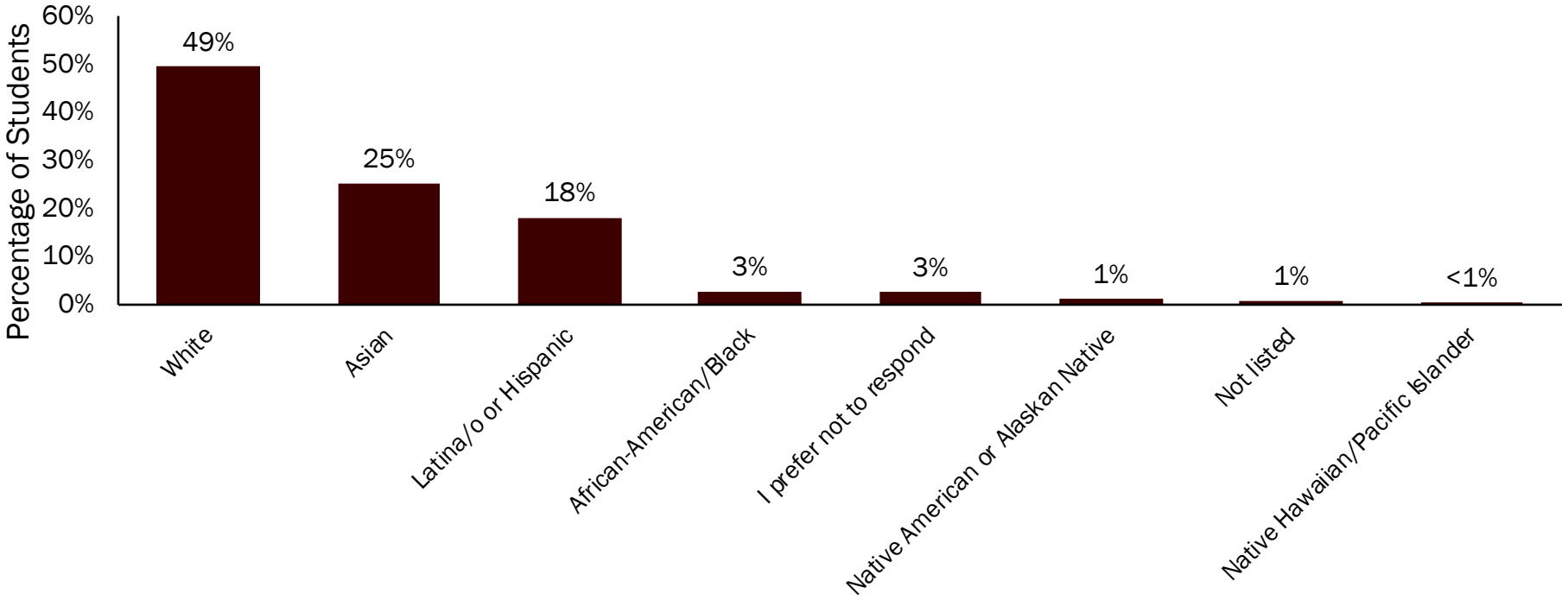
Responses: 4847

Sex/Gender:



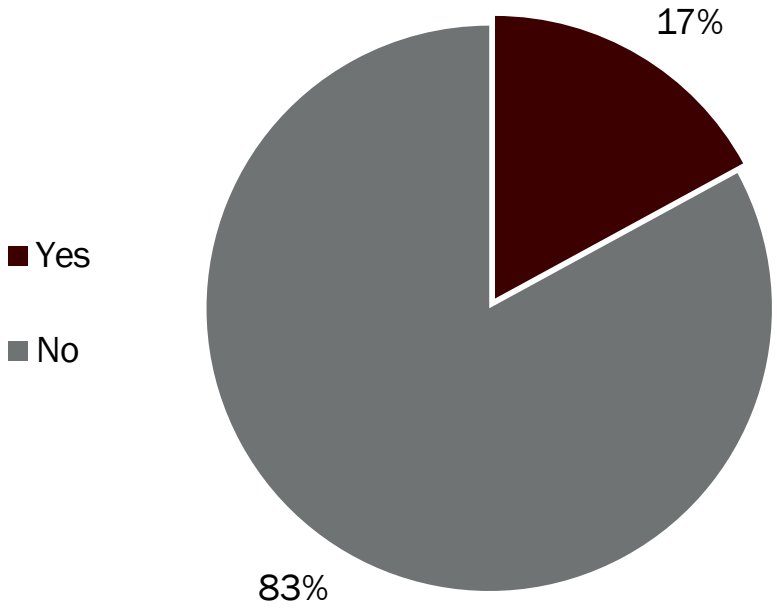
Responses: 4851

Race/Ethnic Identification (check all that apply):



Responses: 4847

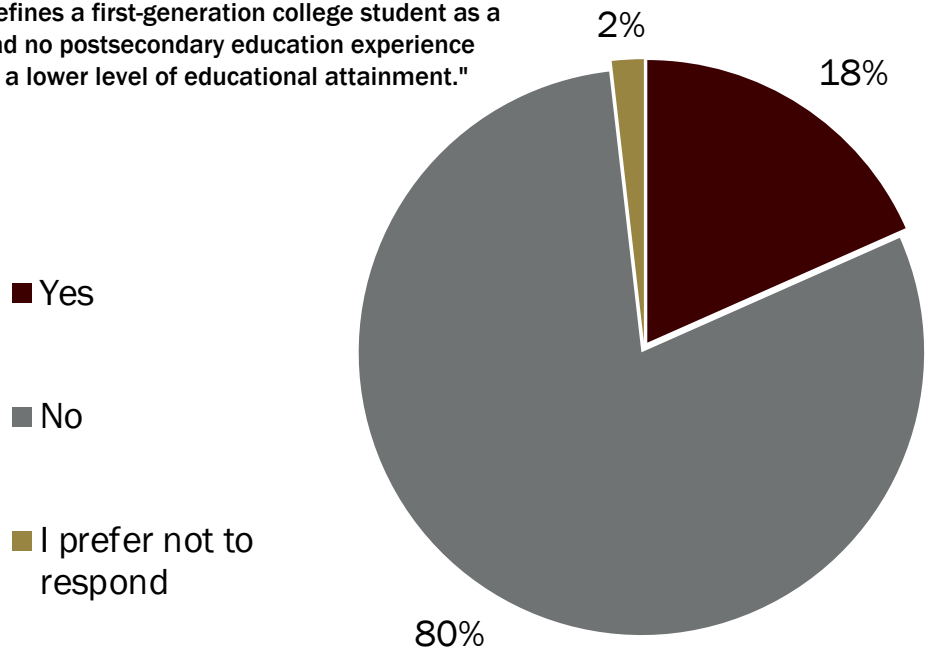
Are you an international student?



Responses: 4847

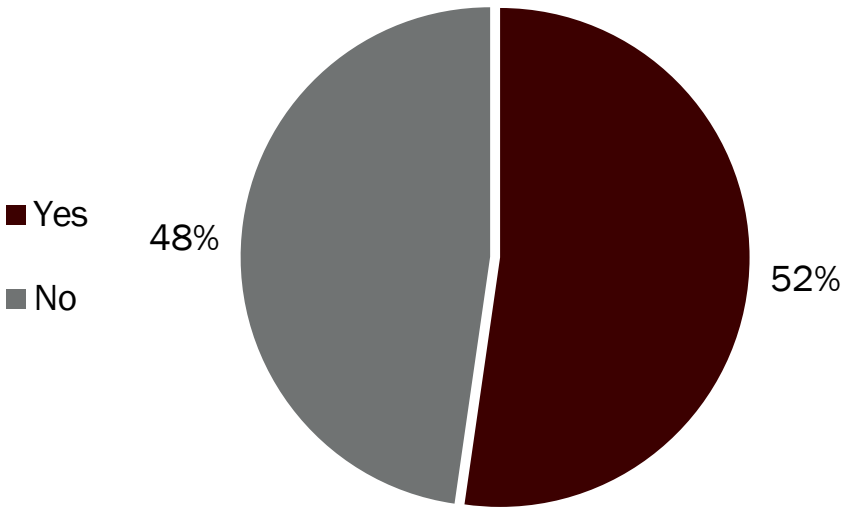
Are you a first-generation college student?

The U.S. Department of Education defines a first-generation college student as a person "whose parents both have had no postsecondary education experience and have a high school education or a lower level of educational attainment."



Responses: 4847

Are you the first member of your family to study/have a career in engineering?



Asked only to UG students
Responses: 4851

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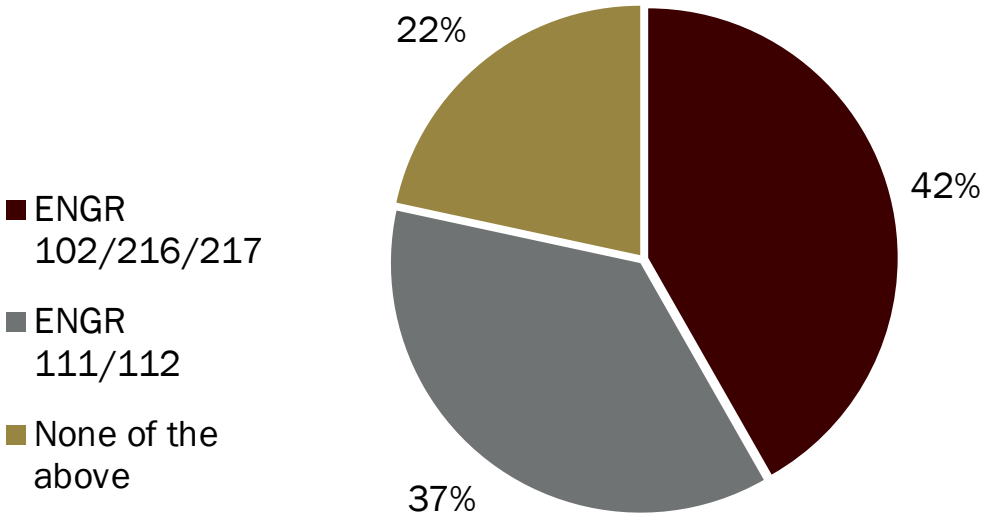
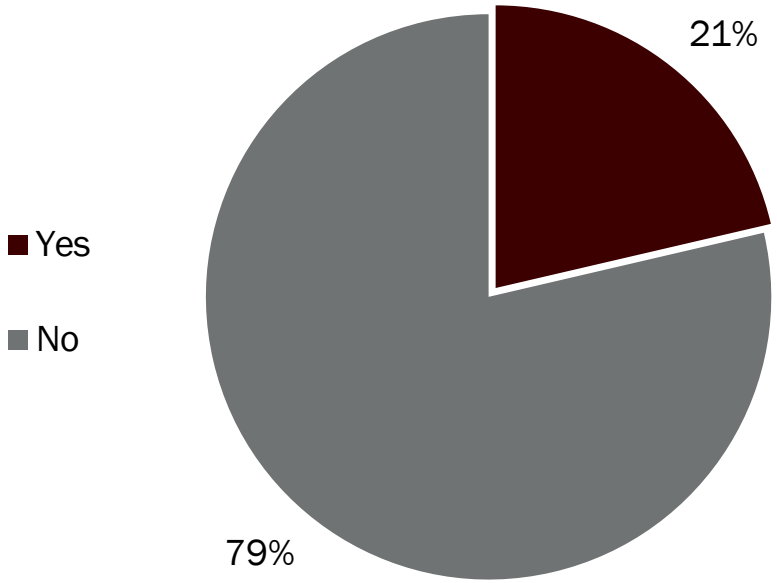
Which course sequence did you take or which course sequence are you currently enrolled in?



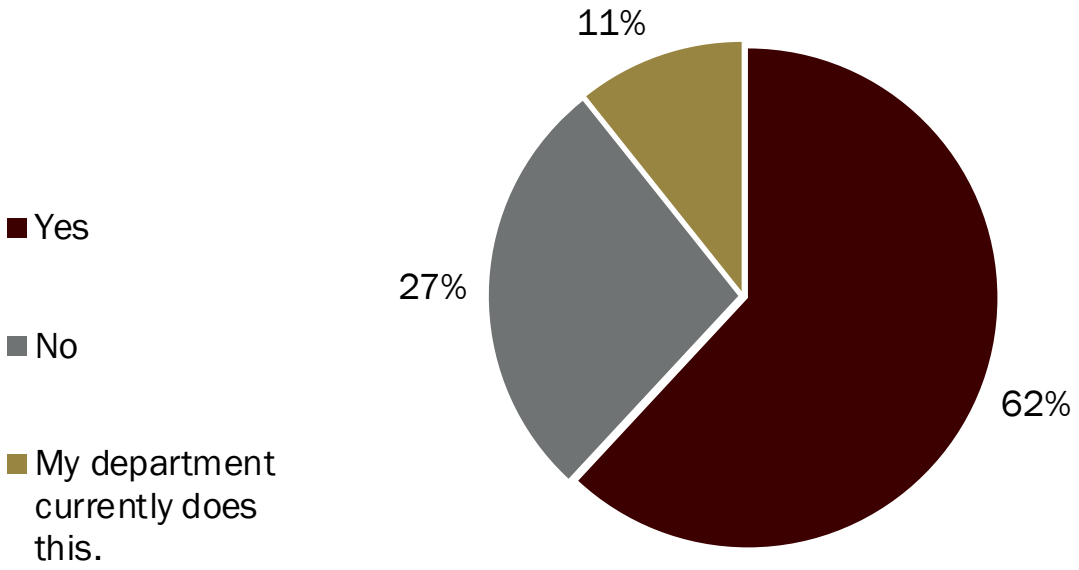
Responses: 4847

Are you graduating in December 2019 or May 2020?



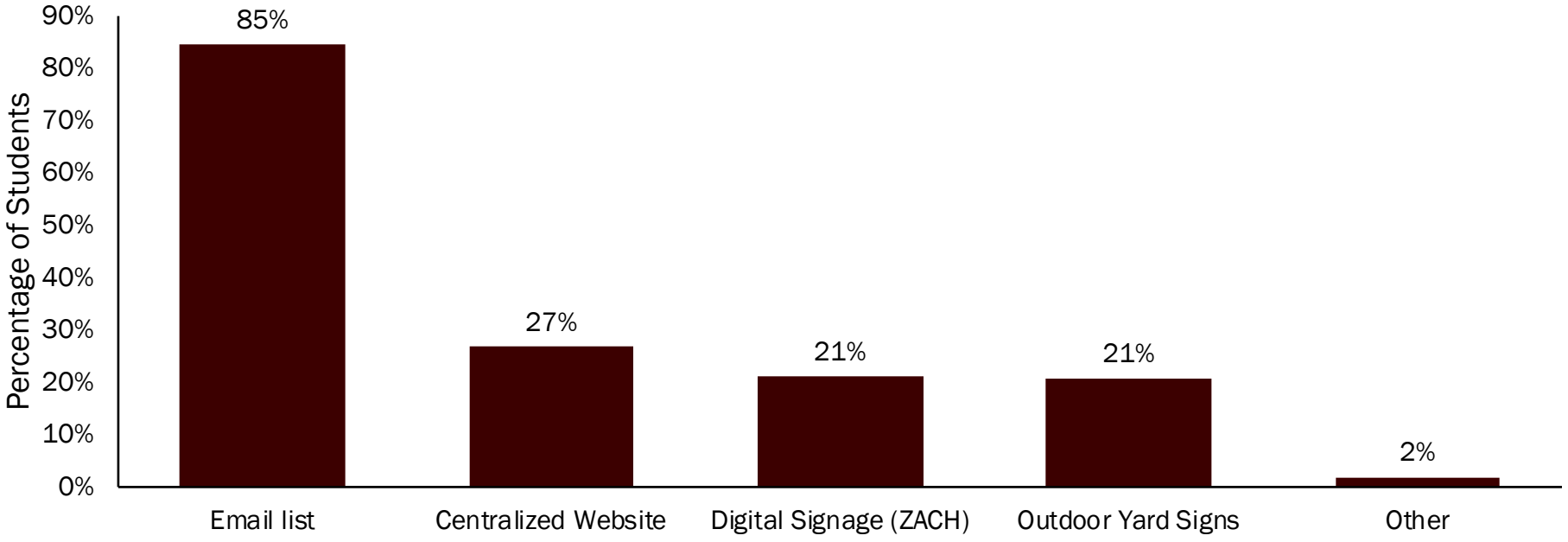
Responses: 4847

Would you find surveys similar to this one valuable from your department specifically?



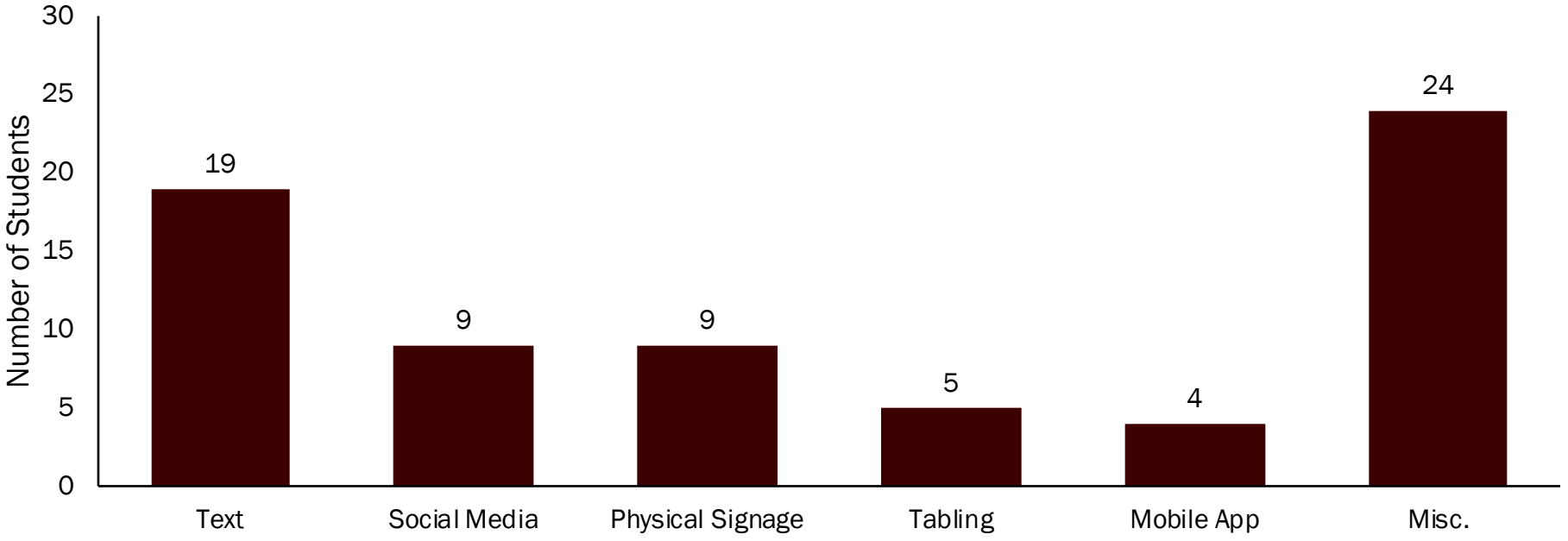
Responses: 4754

How would you prefer to receive information about events happening around the College of Engineering? (check all that apply)



Responses: 70

Open-Ended: How would you prefer to receive information about events happening around the College of Engineering? (check all that apply) – Other



Engineering Student Organization Questions

Asked to all students

Asked to students involved in 1+ ESO's
Responses: 2671

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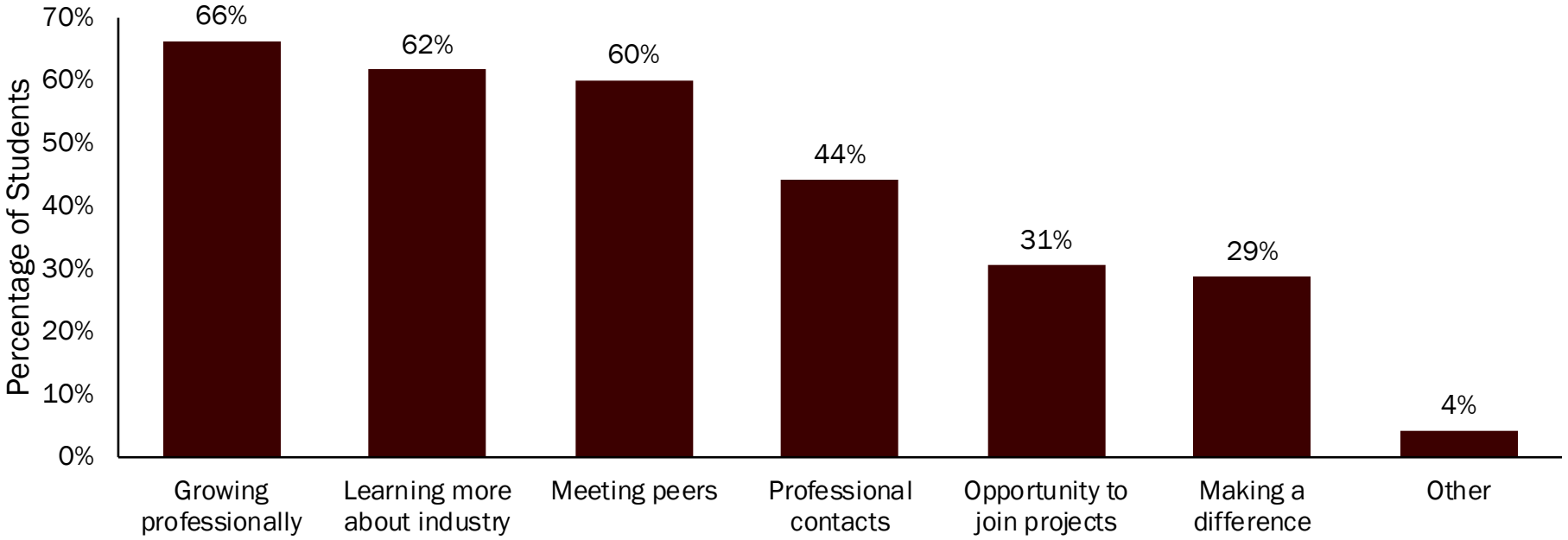
Why did you become involved in your student organization(s)? (check all that apply)



Asked to students involved in 1+ ESO's
Responses: 63

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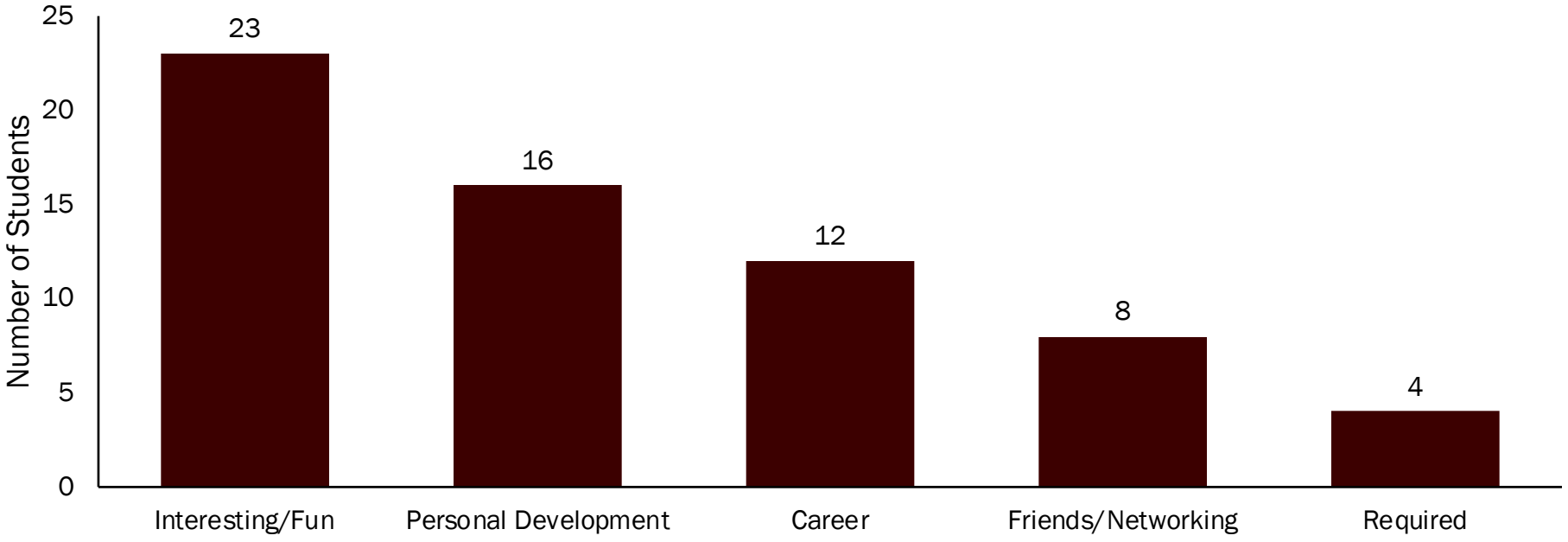
Open-Ended: Why did you become involved in your student organization(s)? (check all that apply) - Other



Undergraduate Student Environment Questions

Asked to undergraduate students only

Responses: 4296

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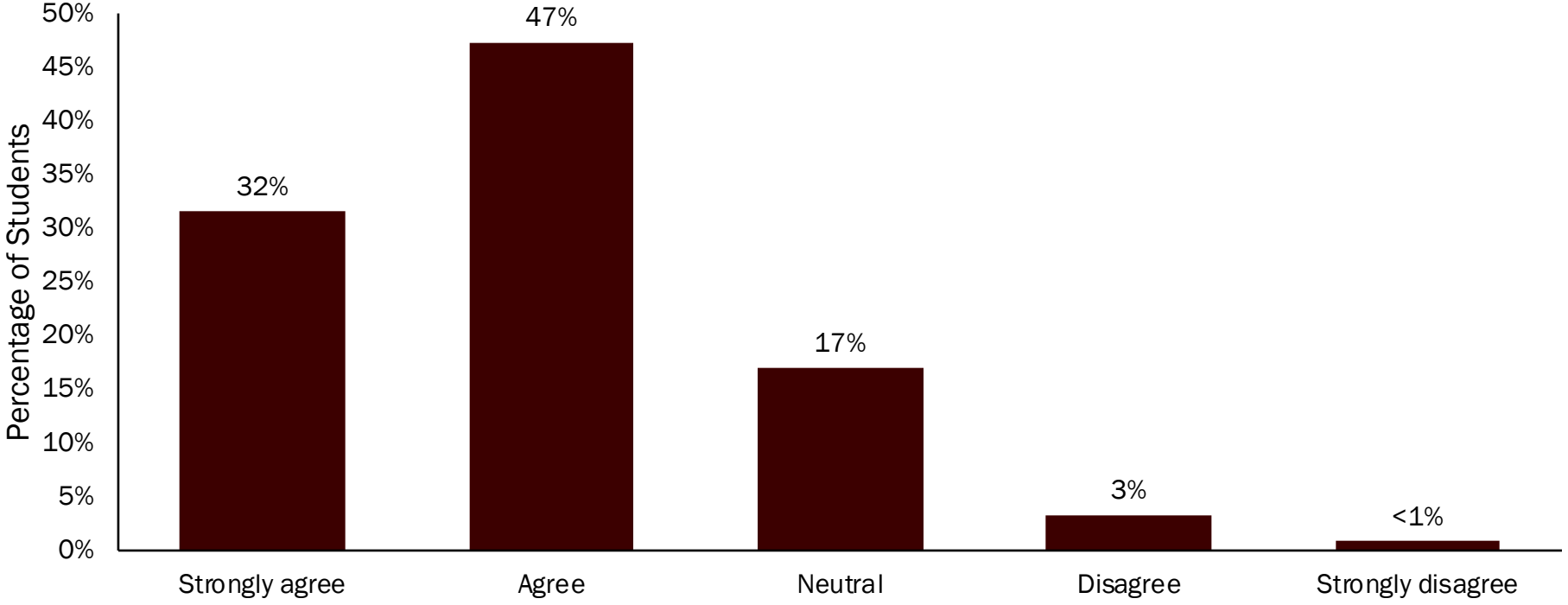
The College of Engineering promotes a diverse engineering student body.



Responses: 4296

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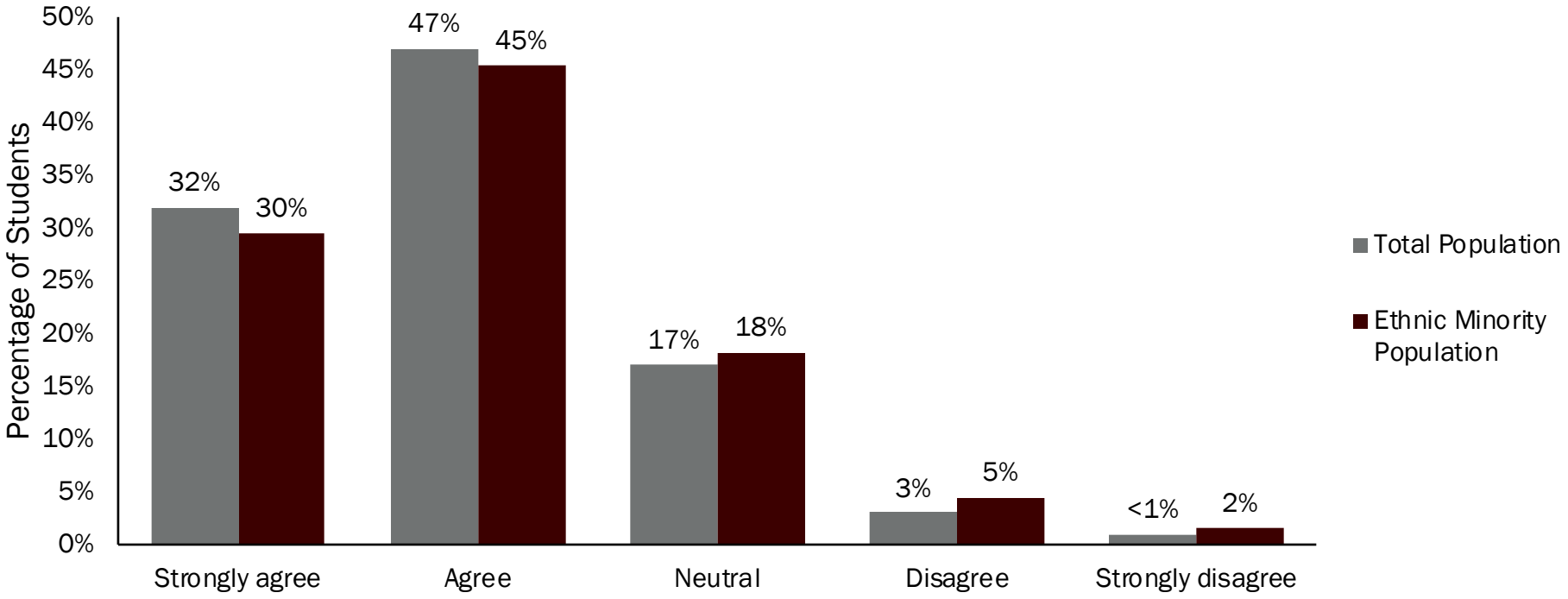
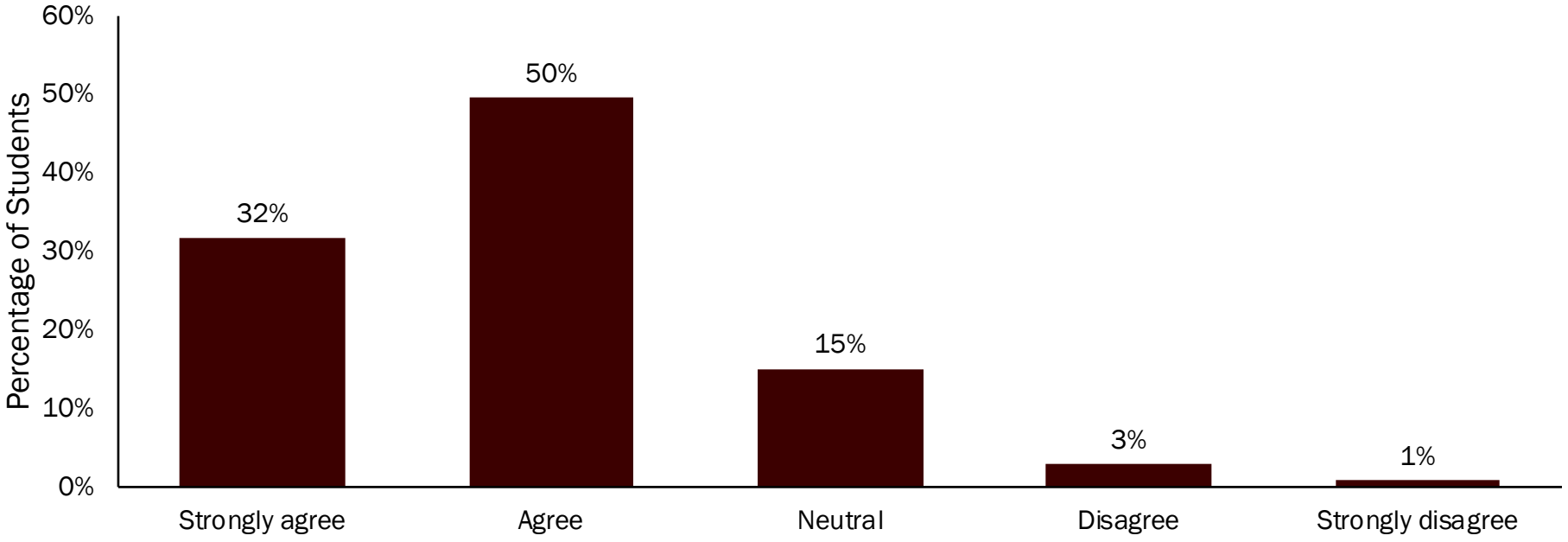


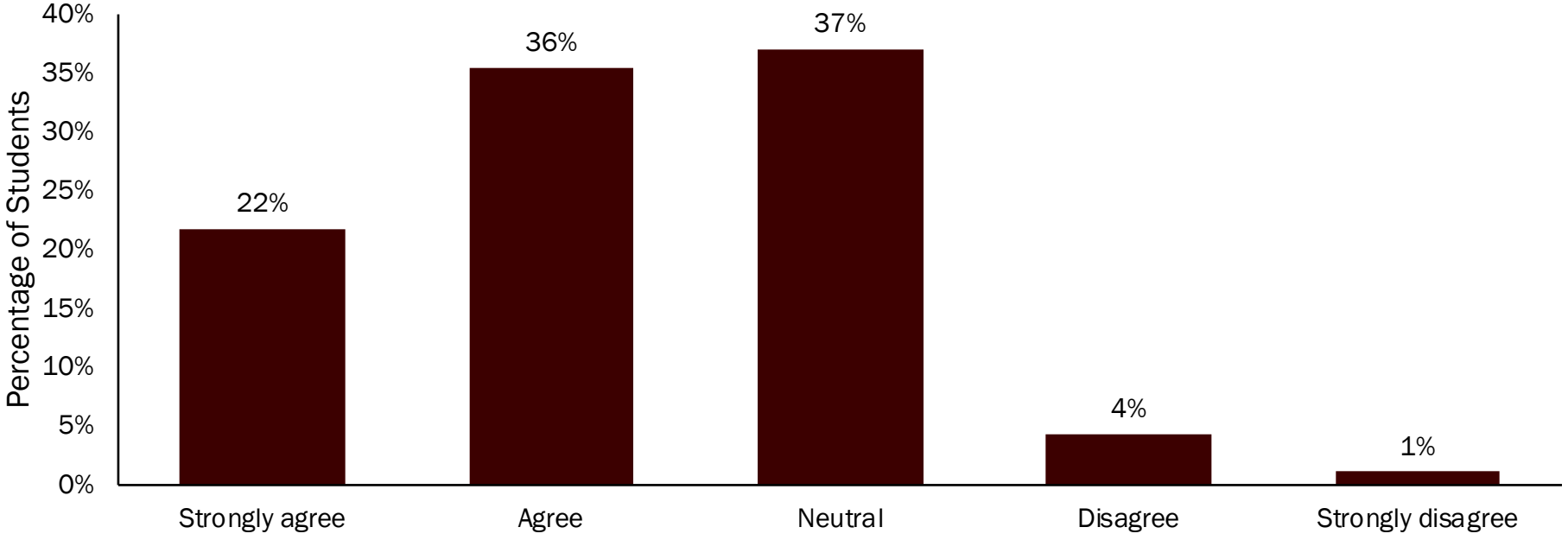
Responses: 4296

The College of Engineering promotes a welcoming culture among the engineering student body.



Responses: 4296

The College of Engineering provides sufficient support to international students and to students from groups historically underrepresented in STEM fields.



Responses: 4296

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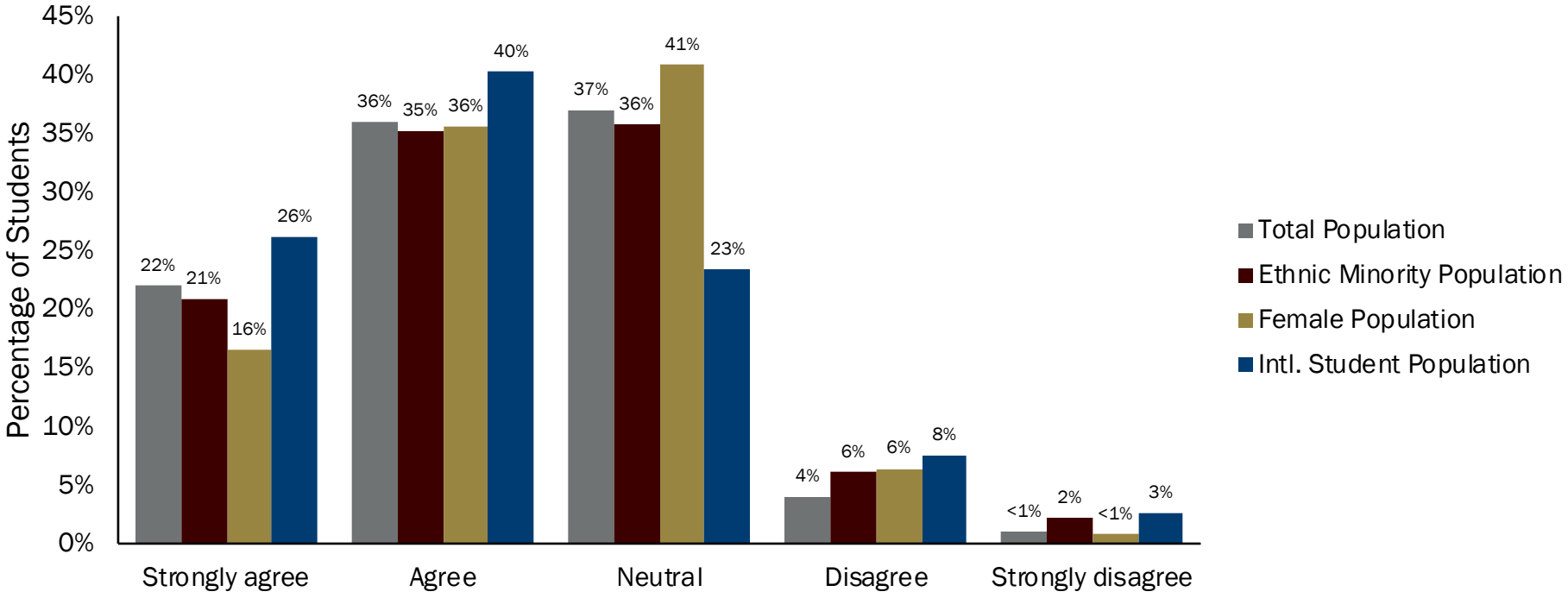

Responses: 4296

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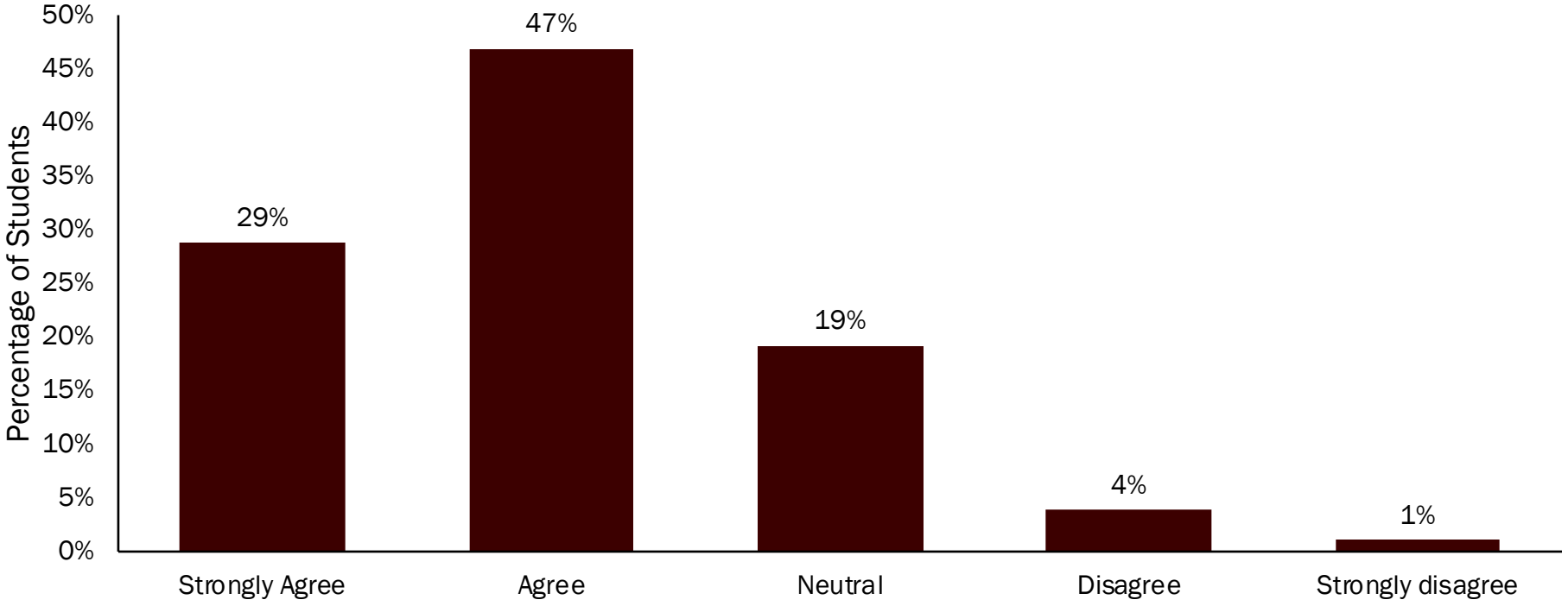
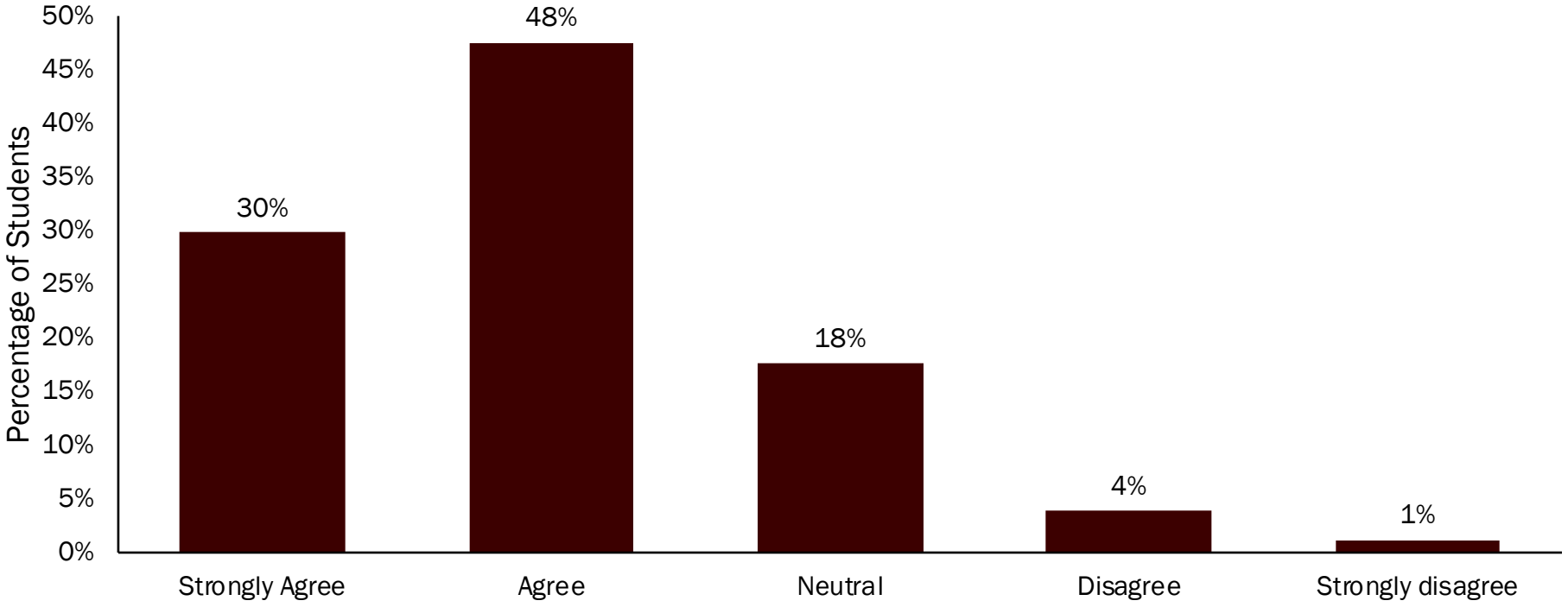
The College of Engineering values diversity by having a diverse faculty.



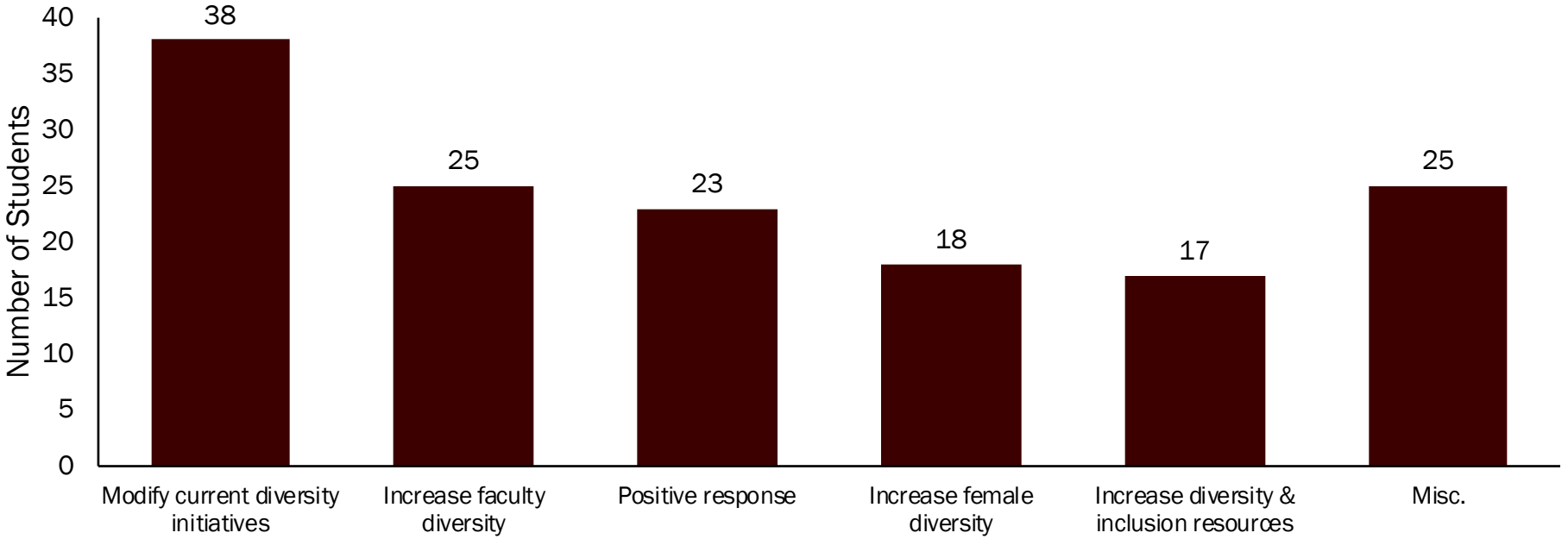
Responses: 4296

The College of Engineering values intellectual diversity and diversity of thought.



Responses: 146

Open-Ended: If you have additional comments regarding the College's approach to diversity and diversity initiatives, please explain.



Responses: 146

Open-Ended: **If you have additional comments regarding the College's approach to diversity and diversity initiatives, please explain.**

Modify current diversity & inclusion initiatives

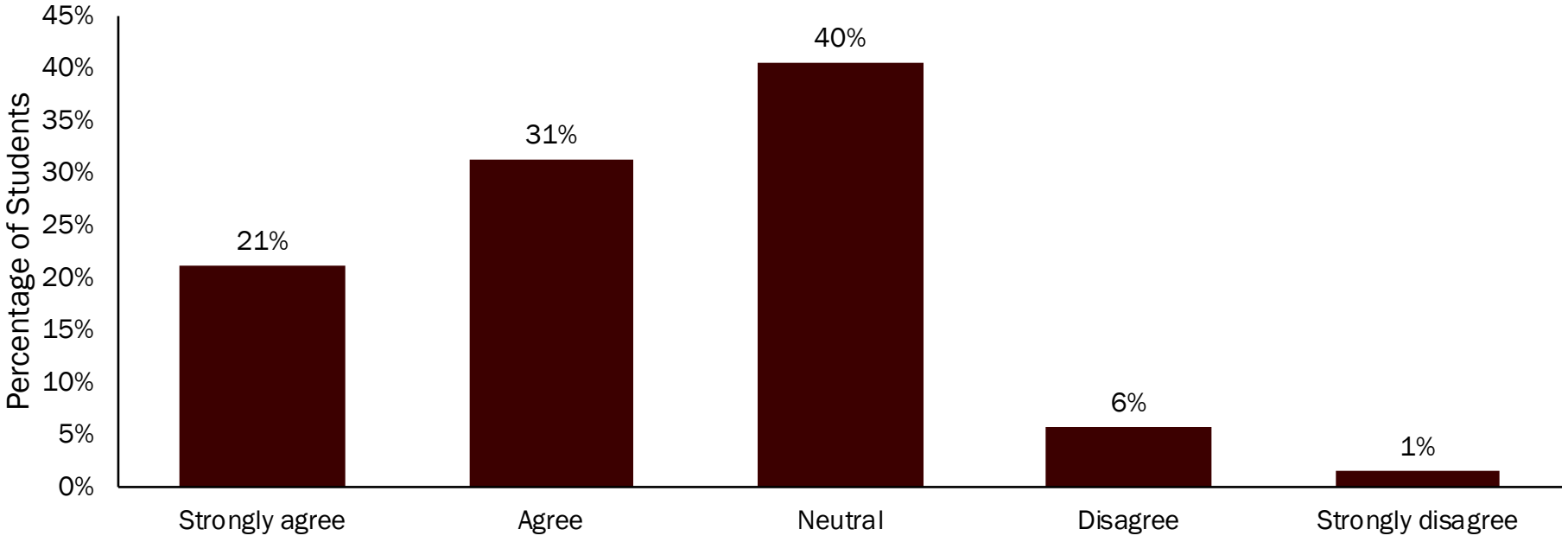
- "Diversity in engineering is beneficial and desirable, and it should never be at the expense of the quality of the engineering students/faculty."

Increase diversity & inclusion resources

- "In the future, there can be more scholarships/financial aid especially directed towards international students who struggle with financing their education."

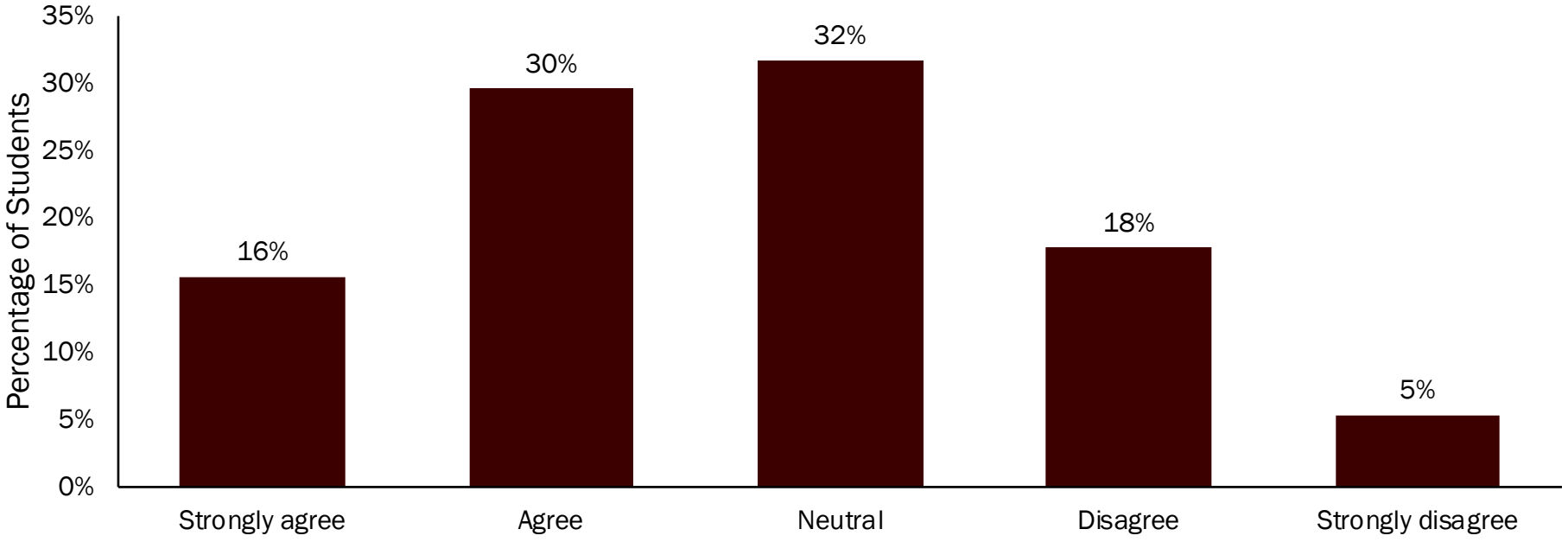
Responses: 4234

The College of Engineering takes sufficient measures to address sexual assault/harassment.



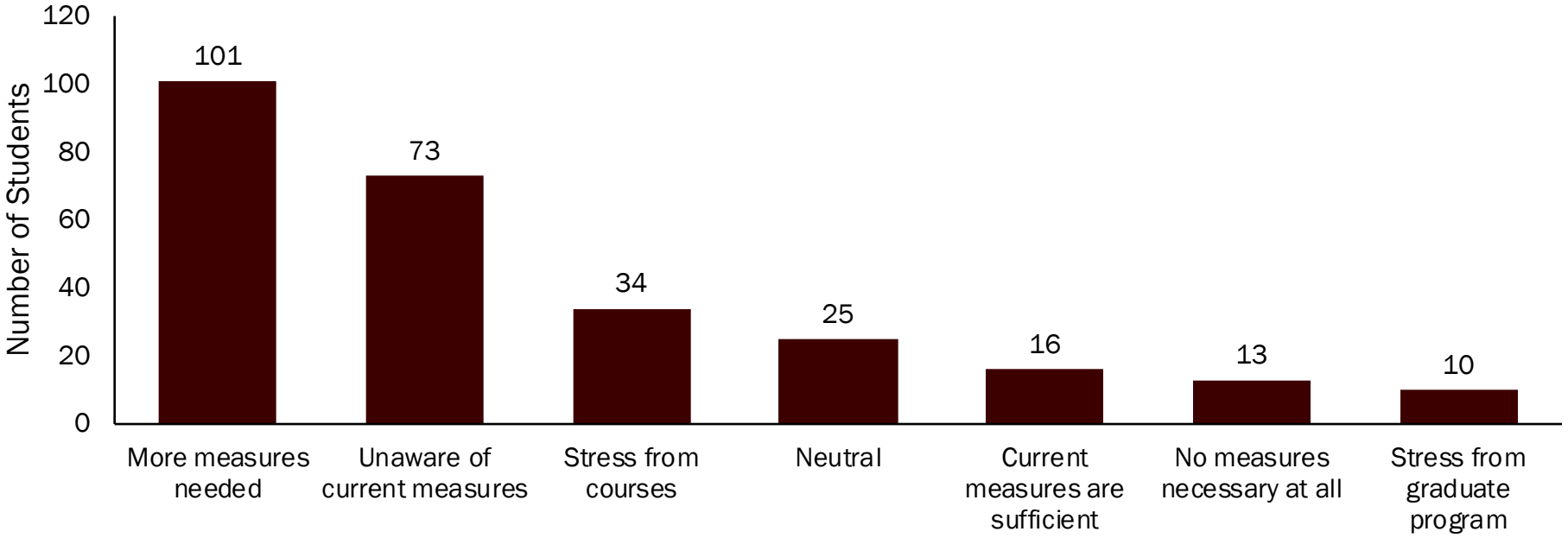
Responses: 4234

The College of Engineering takes sufficient measures to address mental health and wellness.



Responses: 272

Open-Ended: If you have additional comments/suggestions regarding the College's measures concerning mental health and wellness among the engineering student body, please explain below.



Responses: 272

Open-Ended: **If you have additional comments/suggestions regarding the College's measures concerning mental health and wellness among the engineering student body, please explain below.**

Improvements Needed for Current Measures

- "I appreciate that ZACH has a counseling services center. I would like for the College of Engineering to actively support mental health campaigns across campus (i.e. the Suicide Prevention Day). For example, having engineering students discuss their experiences with mental health through the Sound Bytes podcast or Engineering articles."
- "I feel that there is a lot of resources and outlets and promotion for mental health, yet I don't see many ads posted or flyers, or people tabling at public engineering areas (ZACH or ETB), and I think especially around finals, students would need that kind of encouragement the most."

Responses: 272

Open-Ended: **If you have additional comments/suggestions regarding the College's measures concerning mental health and wellness among the engineering student body, please explain below.**

Stress from courses is overwhelming

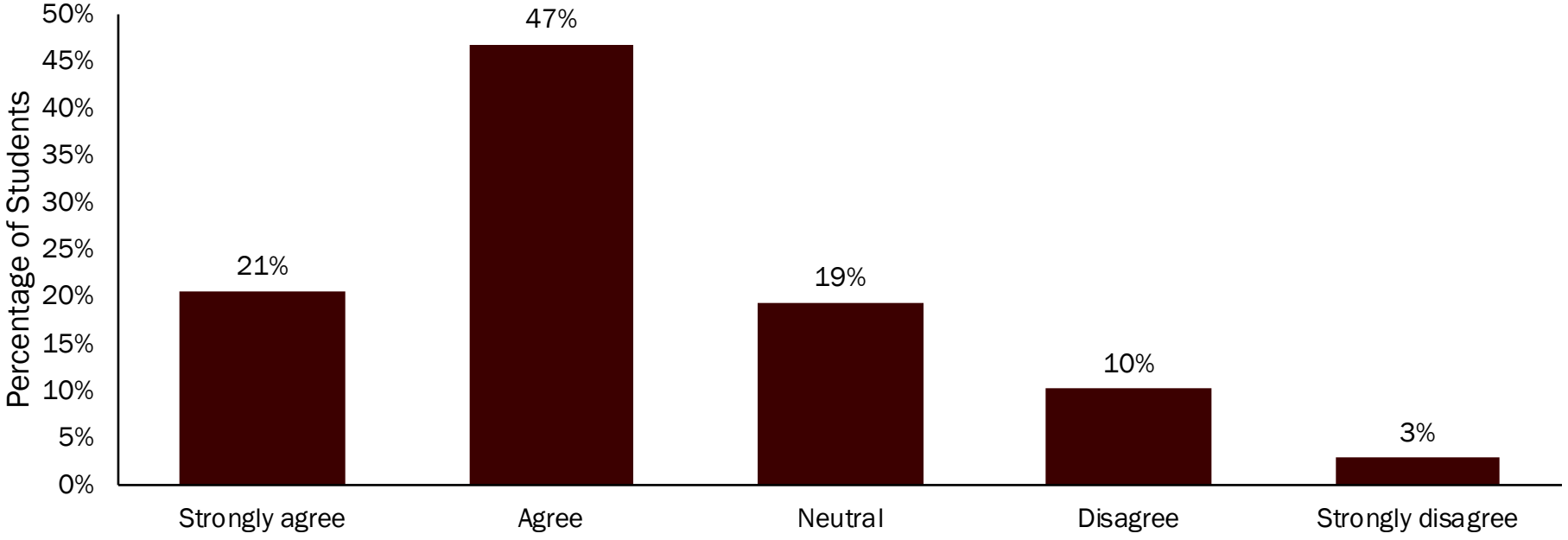
- "Professors commonly assign work without any regard of what is going on with other classes or deadlines. Additionally, students are commonly disregarded when they approach professors with concerns of this type. I believe much more thorough measures can be taken to 1) educate students about healthy work, study, diet, and exercise habits; 2) demand professors work with students to deal with conflicting deadlines (primarily in upper-level courses); and 3) discourage any cultures within the college that center around 'workaholism'. "

Academic Success Questions

Asked to undergraduate students only

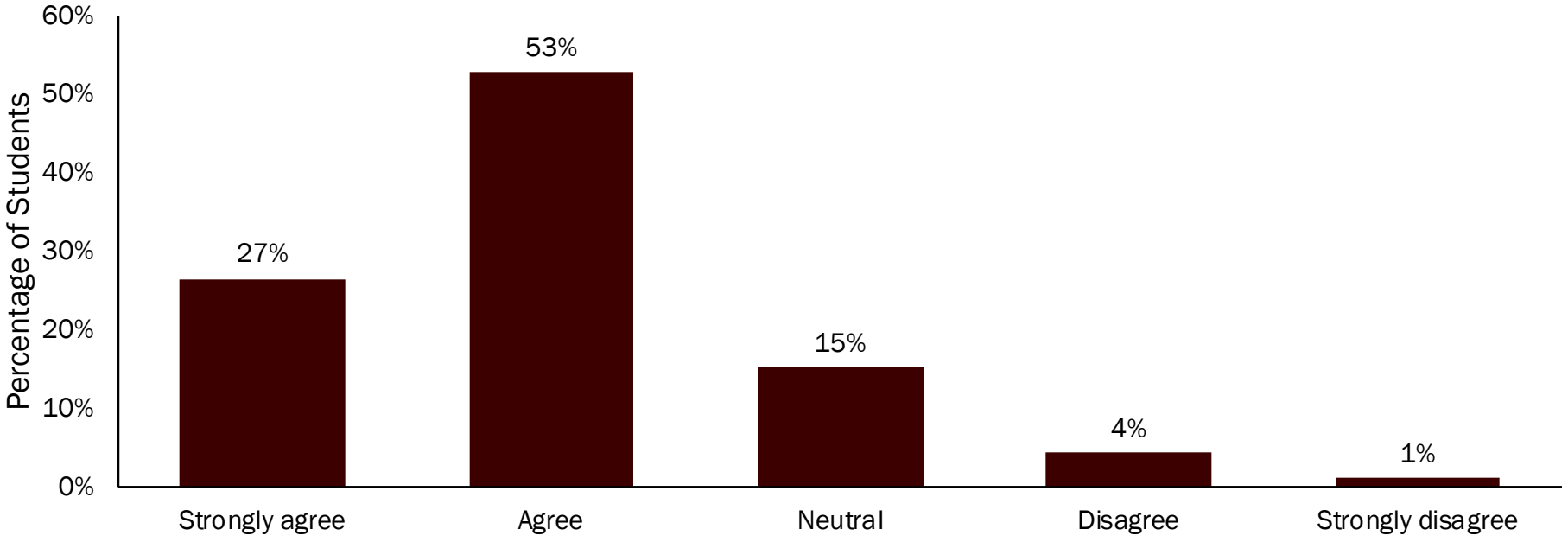
Responses: 4156

The College of Engineering helps me succeed academically by having good and capable professors.



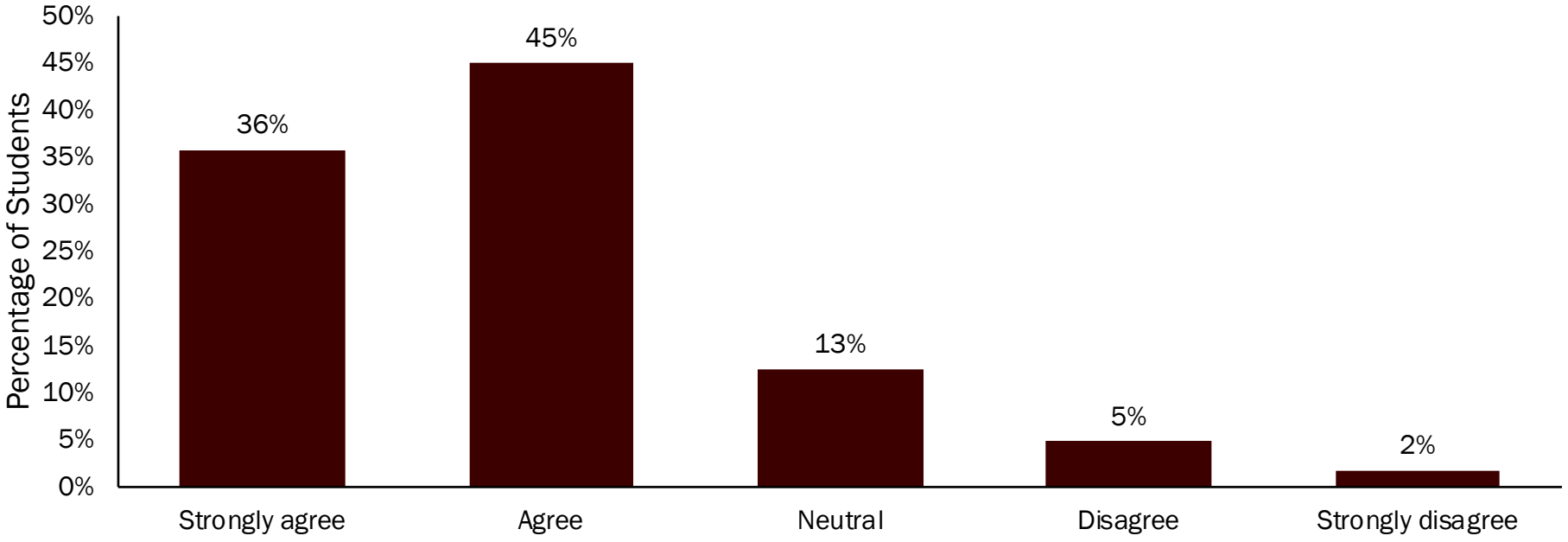
Responses: 4156

The College of Engineering helps me succeed academically by promoting a collaborative environment among my peers.



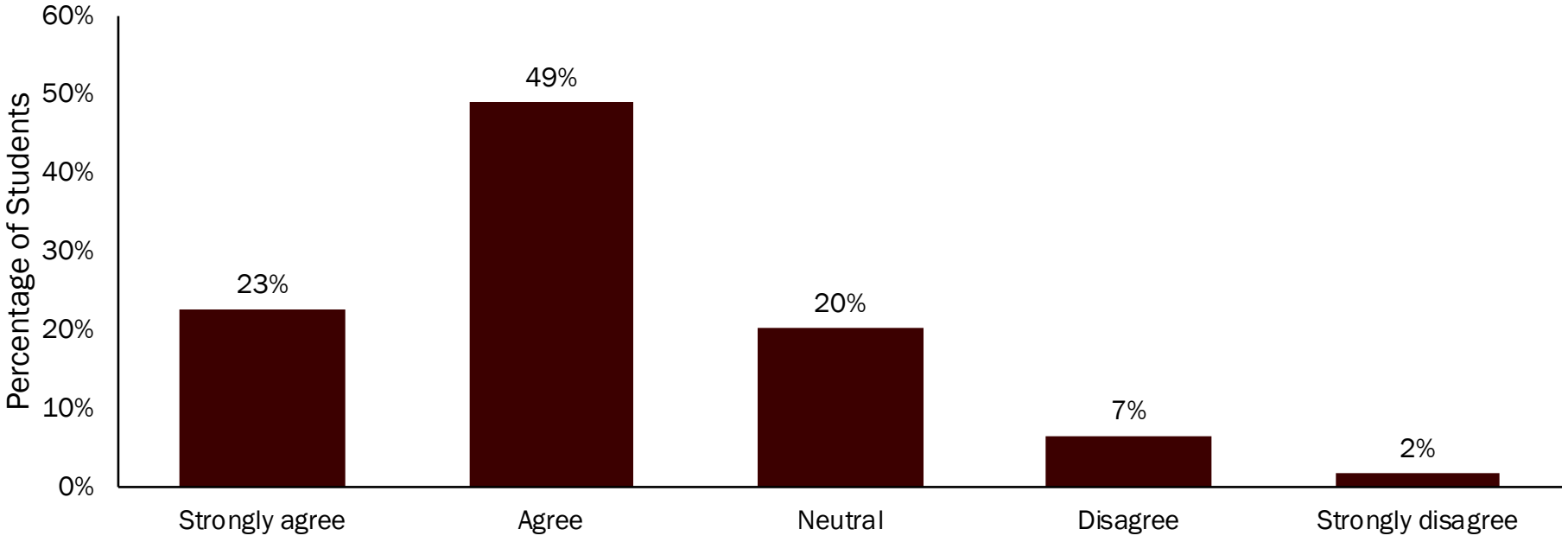
Responses: 4156

The College of Engineering helps me succeed academically by providing sufficient facilities and infrastructure.



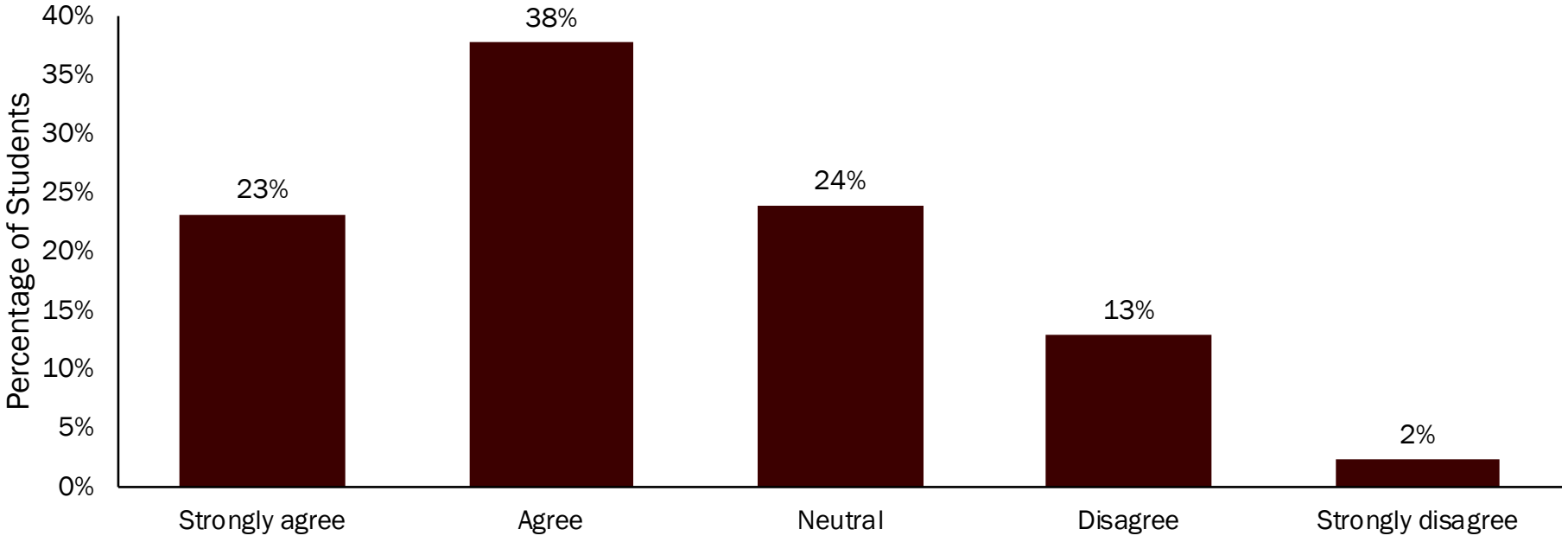
Responses: 4156

The College of Engineering helps me succeed academically by providing sufficient academic support.



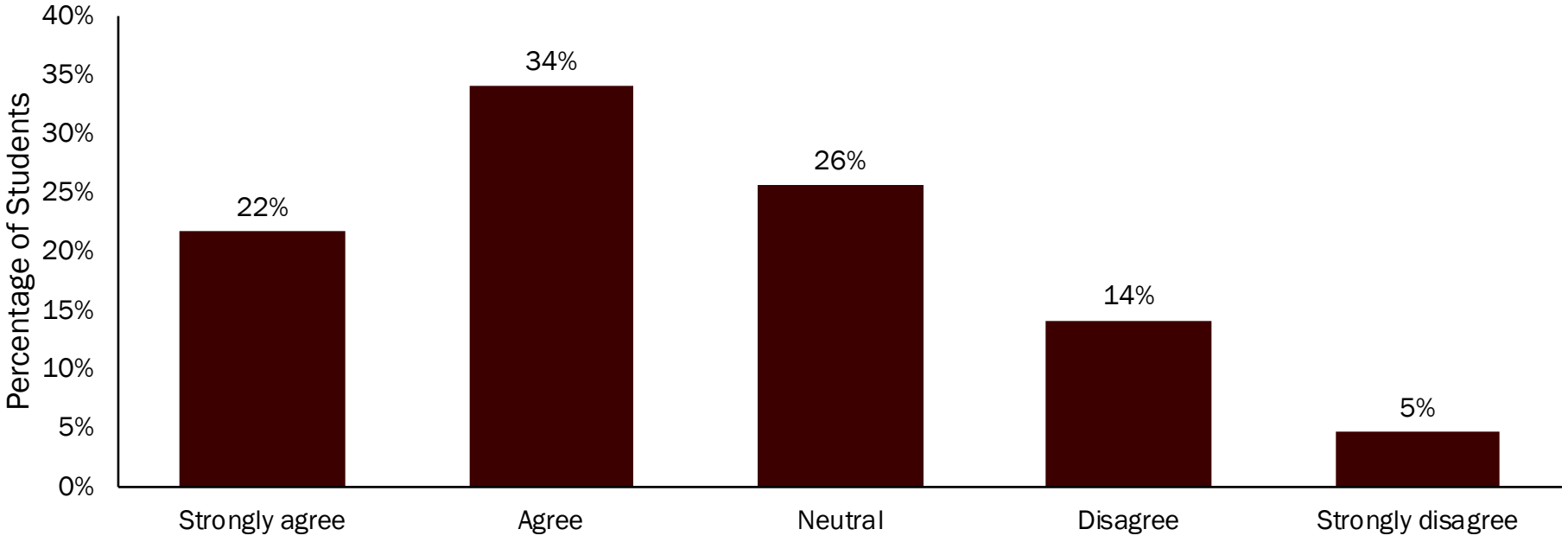
Responses: 4156

The size of my classes impacts my ability to succeed academically.



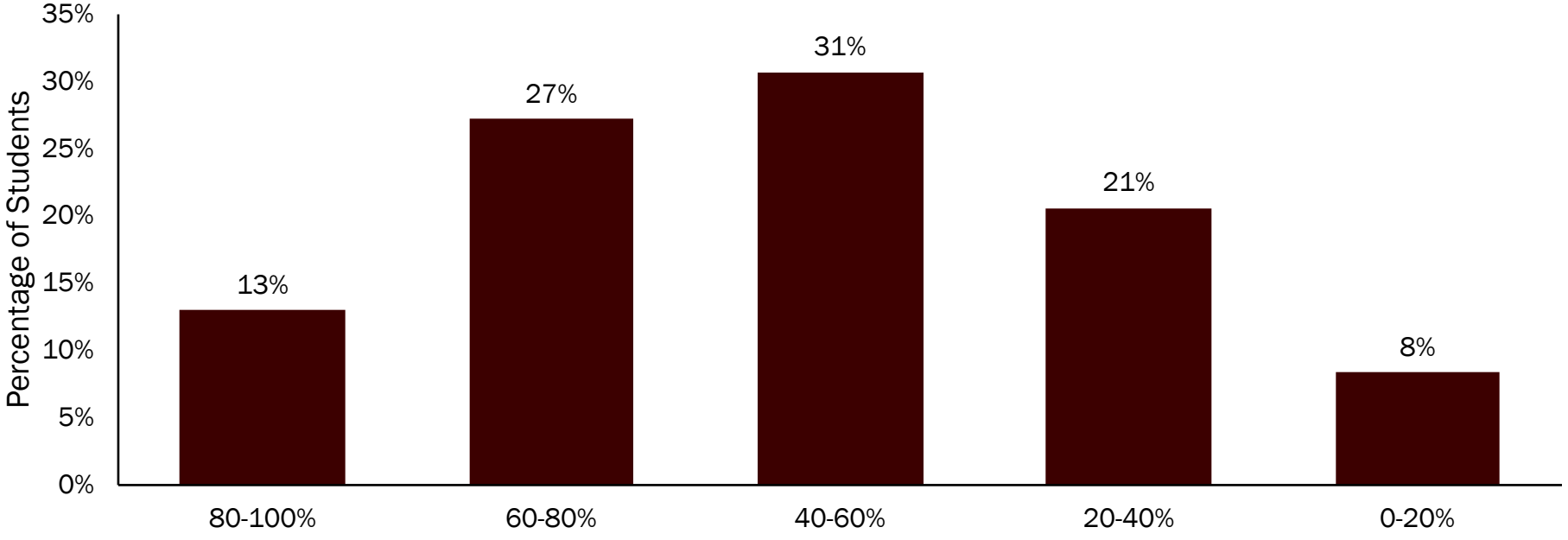
Responses: 4072

An emphasis on exams in my classes, rather than projects, impacts my ability to succeed academically.



Responses: 4066

During your time at Texas A&M University, approximately what percentage of your courses have promoted an active and engaging learning environment facilitated by the professor?

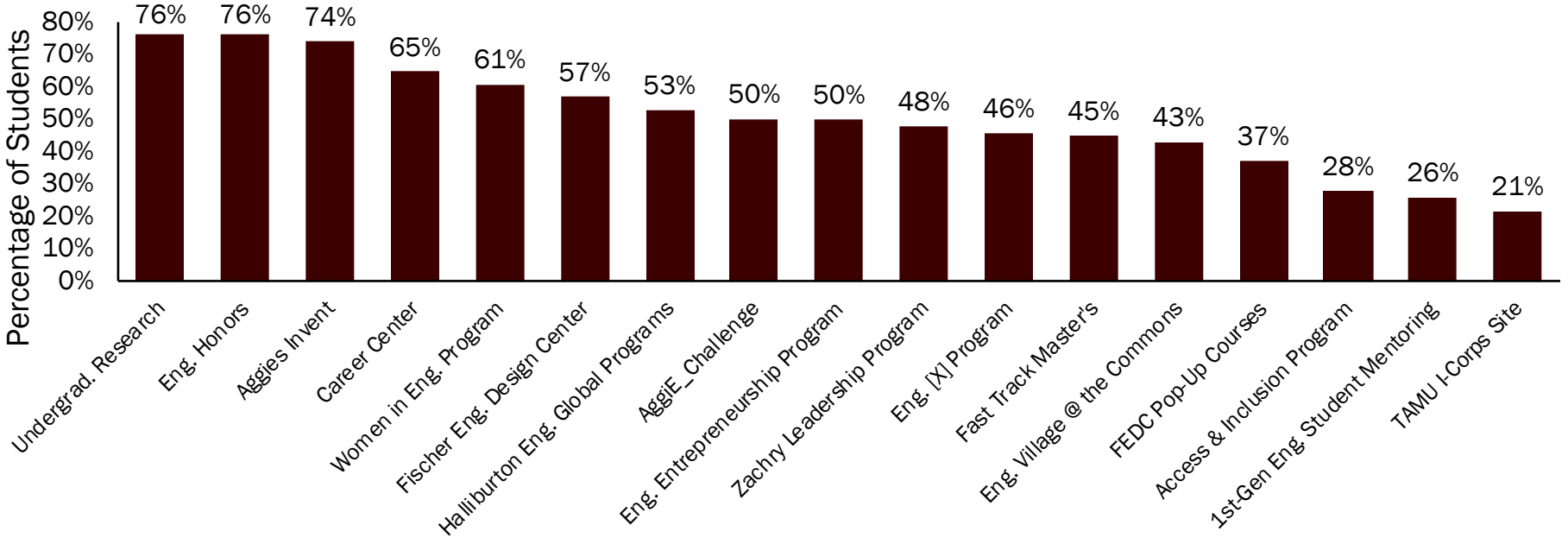


Academic Programs & High Impact Experiences Questions

Asked to all undergraduate students

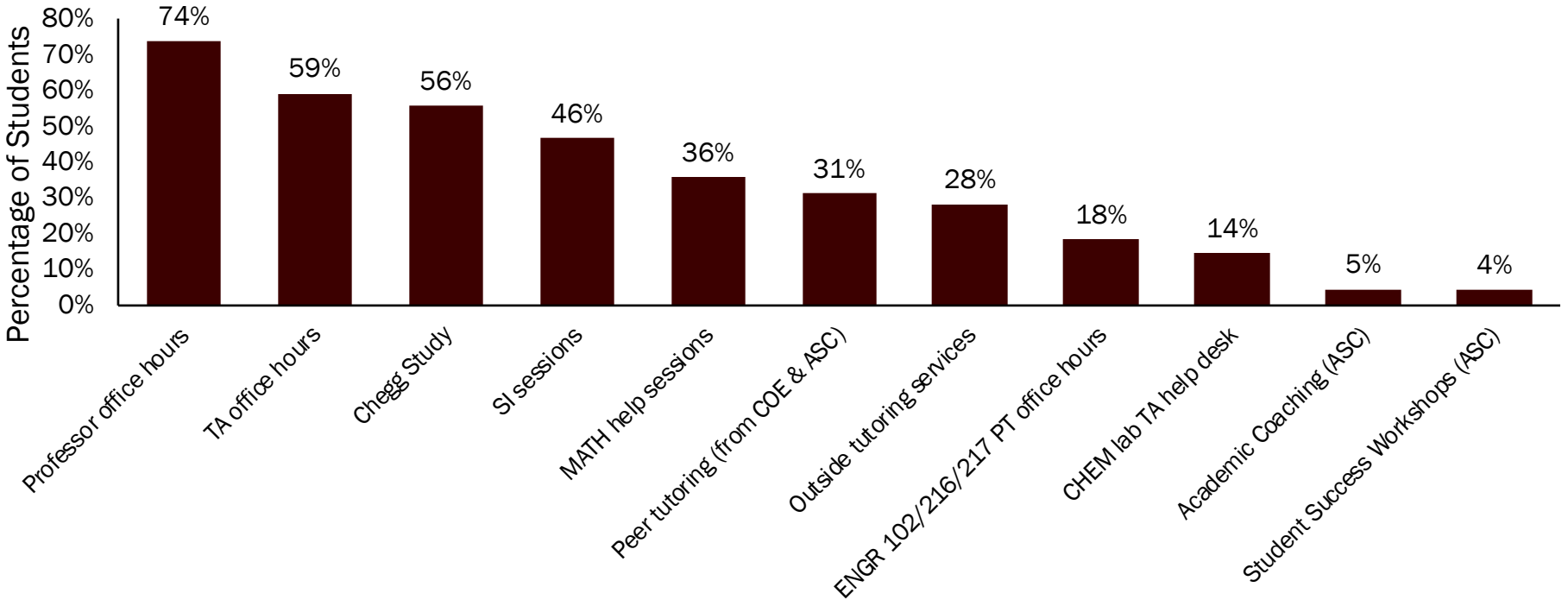
Responses: 3868

Are you aware of the following Academic Enrichment programs? (check all that apply)



Responses: 3467

Select all of the following Academic Support Services that you have utilized.



Asked only to students who utilized each service

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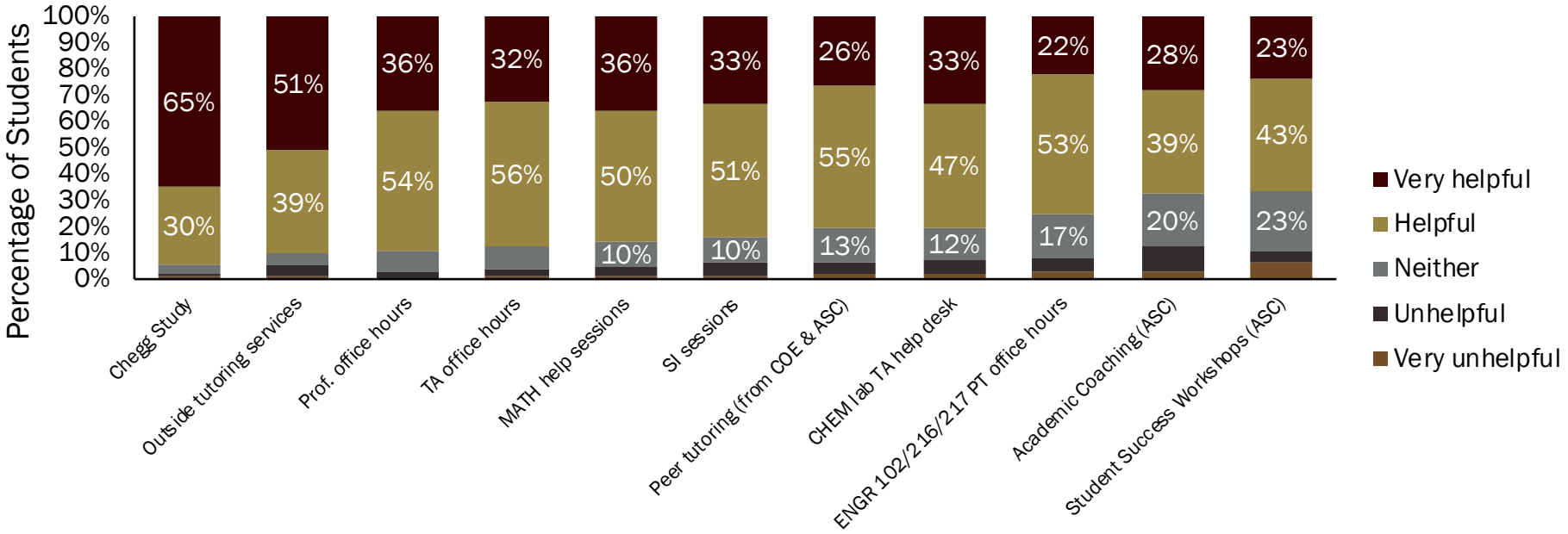
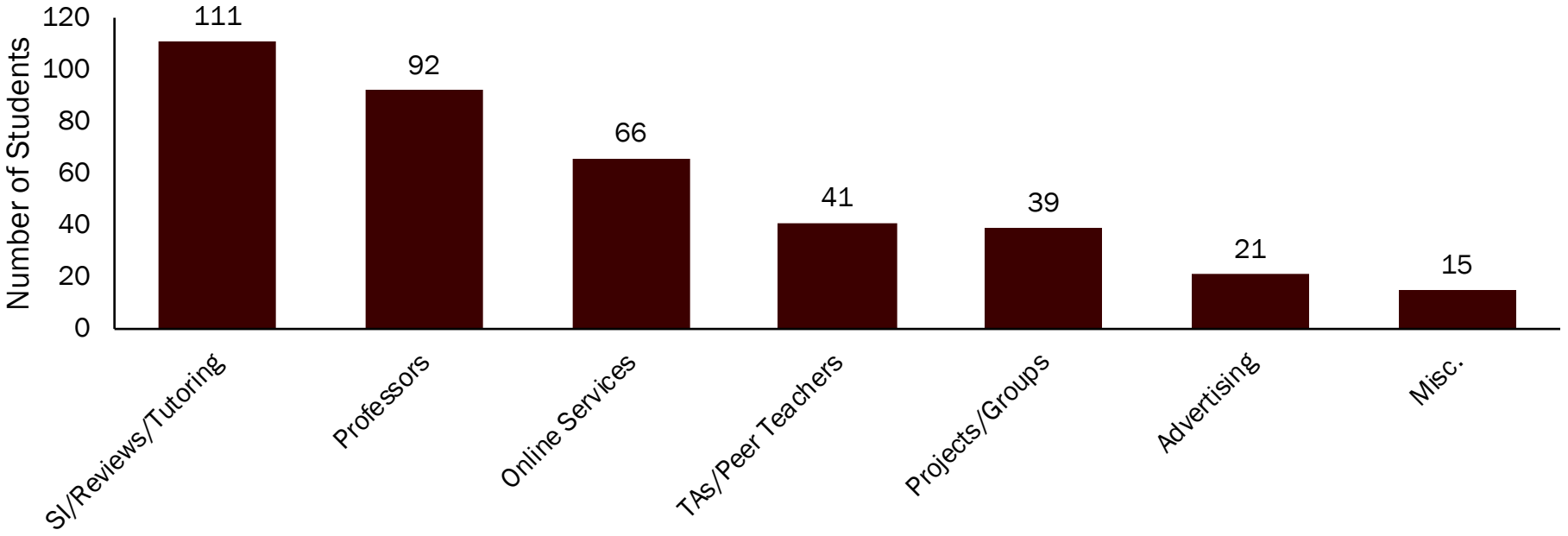
How helpful are the following Academic Support Services in helping you succeed academically?



Responses: 385

Open-Ended: What additional Academic Support Services and resources would be helpful in you succeeding academically?



Responses: 385

Open-Ended: What additional Academic Support Services and resources would be helpful in you succeeding academically?

SI/Reviews/Tutoring

- "I wish my TA's would hold SI or review sessions for my upper level classes because they were really helpful for CHEM and PHYS."

Professors

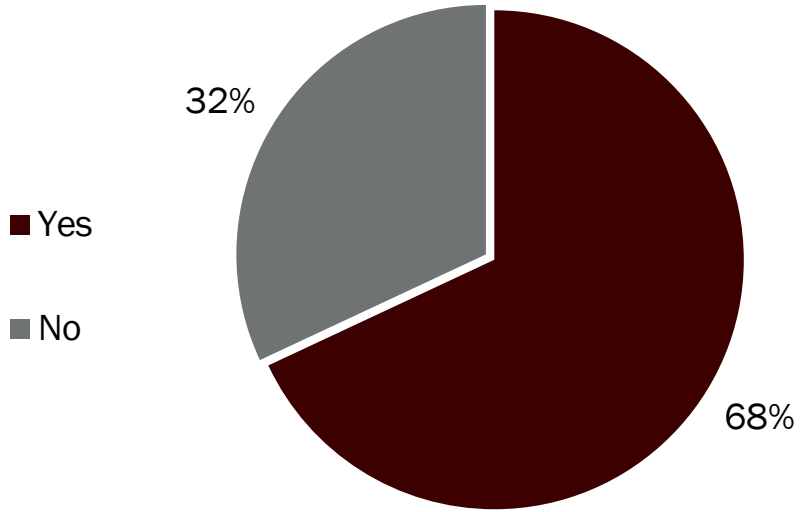
- "Professor-led reviews/practice exams with worked out solutions/study sessions."

Online Services

- "Online materials highlighting the important concepts and showing examples," "Website for 24/7 help," "Live chat online with TAs"

Responses: 3811

Have you gone to see any of your professors outside of class this semester?



Fall 2018 Responses: 3807
Fall 2019 Responses: 3811

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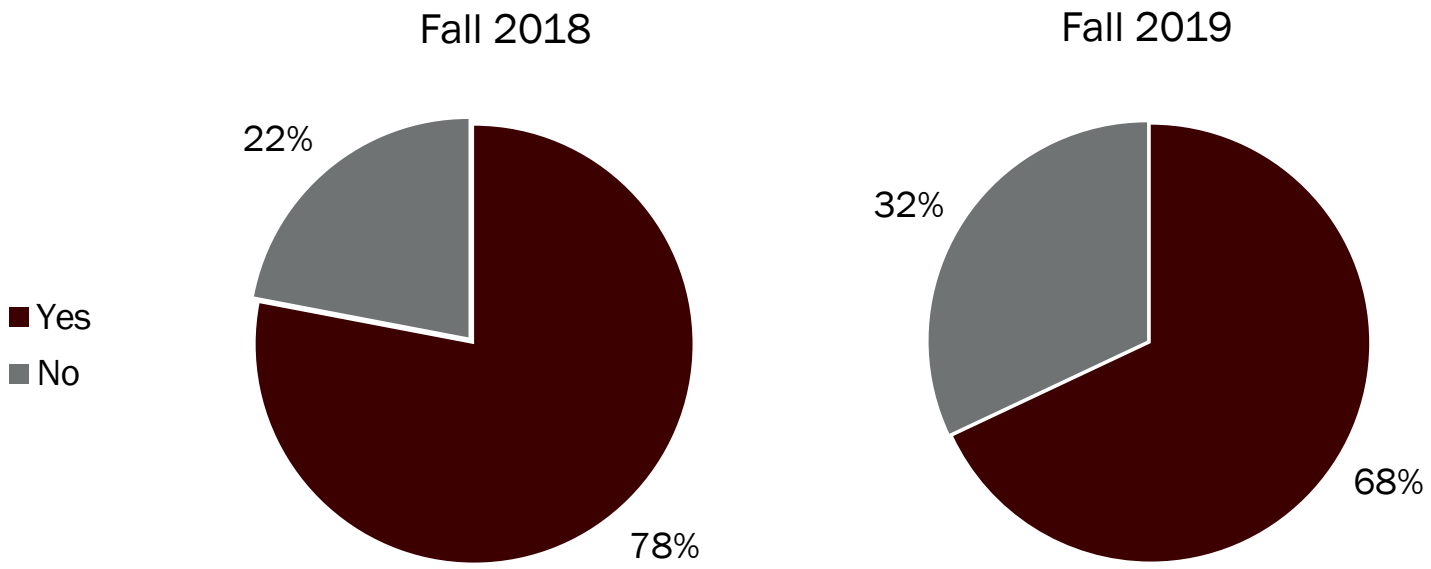

Asked to students who have visited professors in the Fall 2019 semester
Responses: 2580

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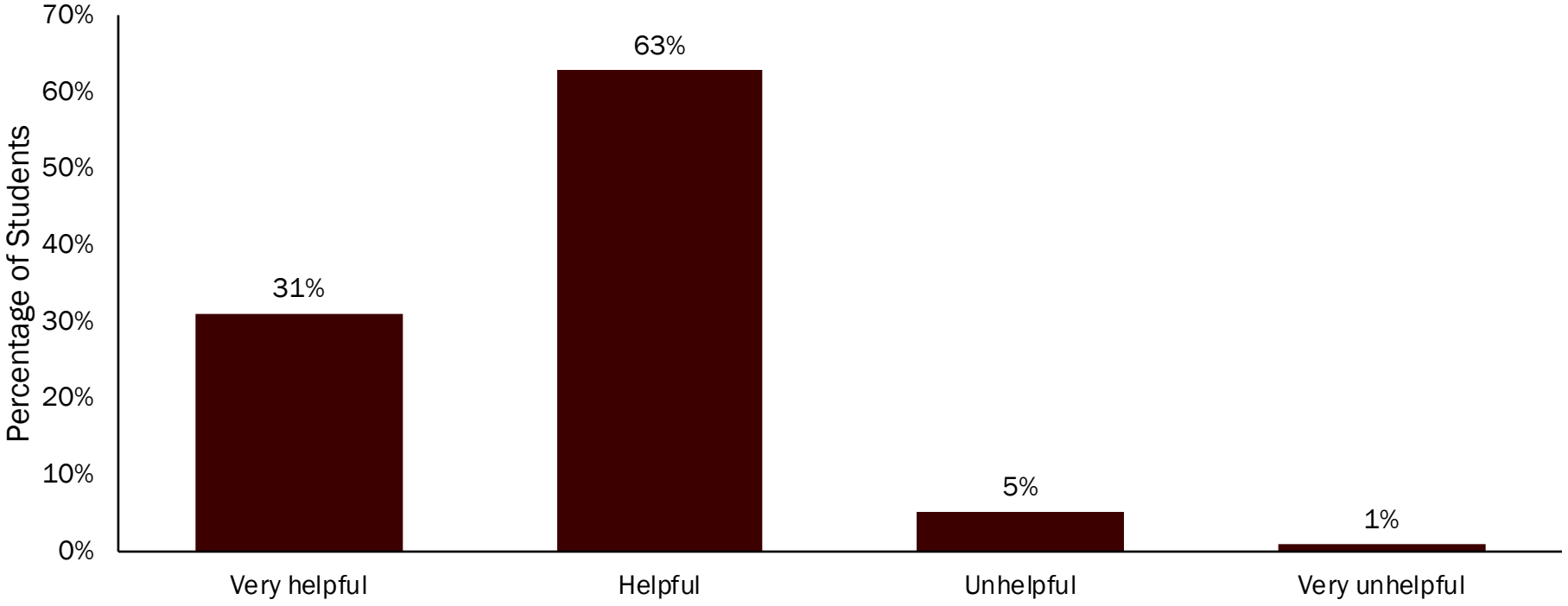
TEXAS A&M UNIVERSITY

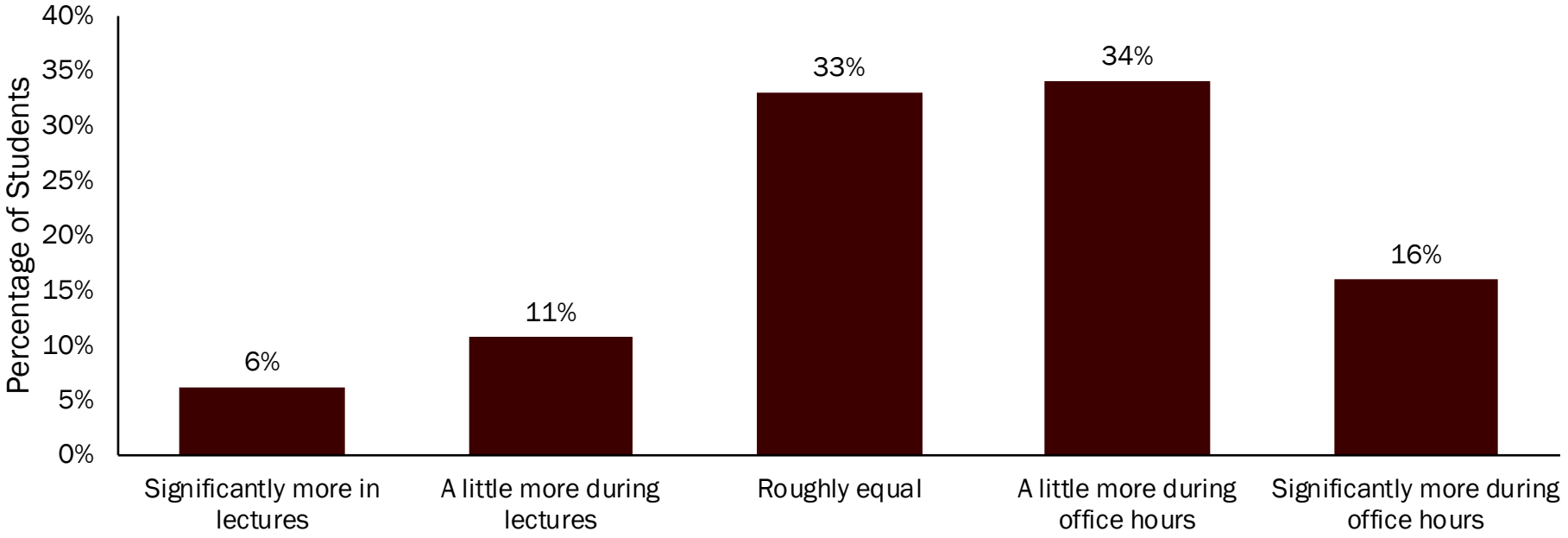
On average, are your visits with your professors helpful or unhelpful?



Asked to students who have visited professors in the Fall 2019 semester
Responses: 2580

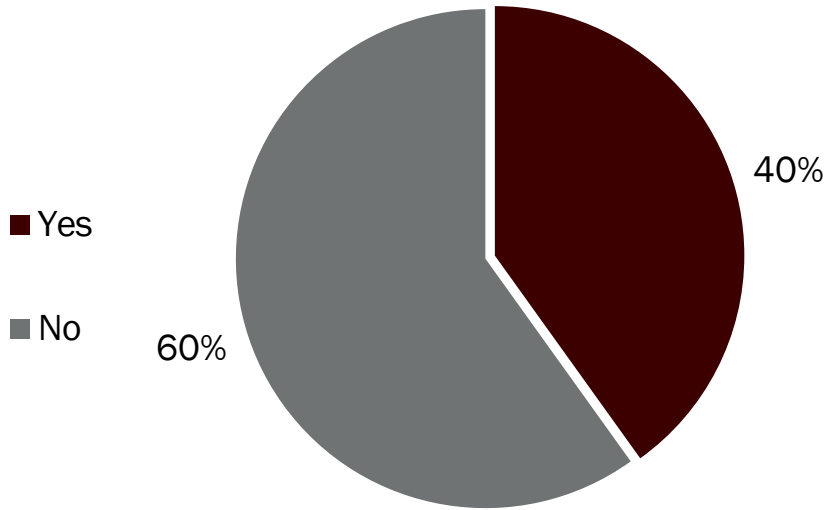
ENGINEERING
TEXAS A&M UNIVERSITY

On average, are your professors more helpful when teaching during lectures or during office hours?



Responses: 3798

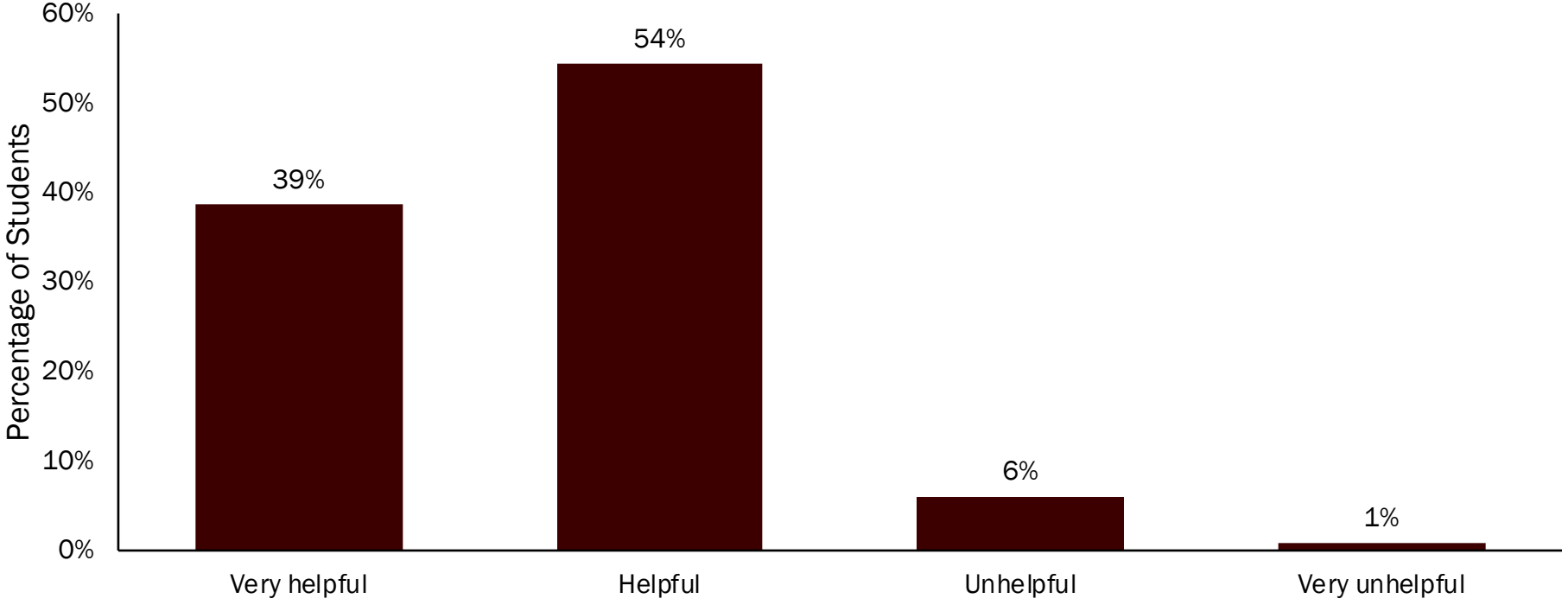
Have you gone to see any of your TAs outside of class this semester?



Asked to students who have visited TAs in the Fall 2019 semester
Responses: 1522

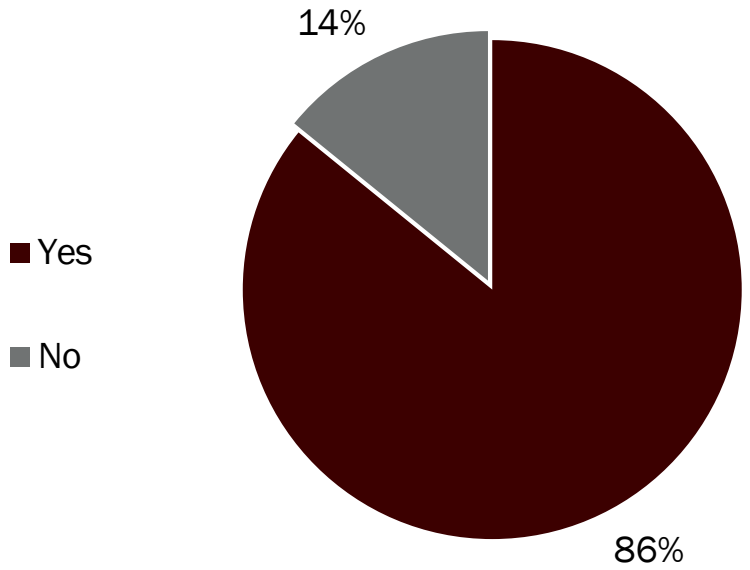
ENGINEERING
TEXAS A&M UNIVERSITY

On average, are your visits with your TAs helpful or unhelpful?



Responses: 3794

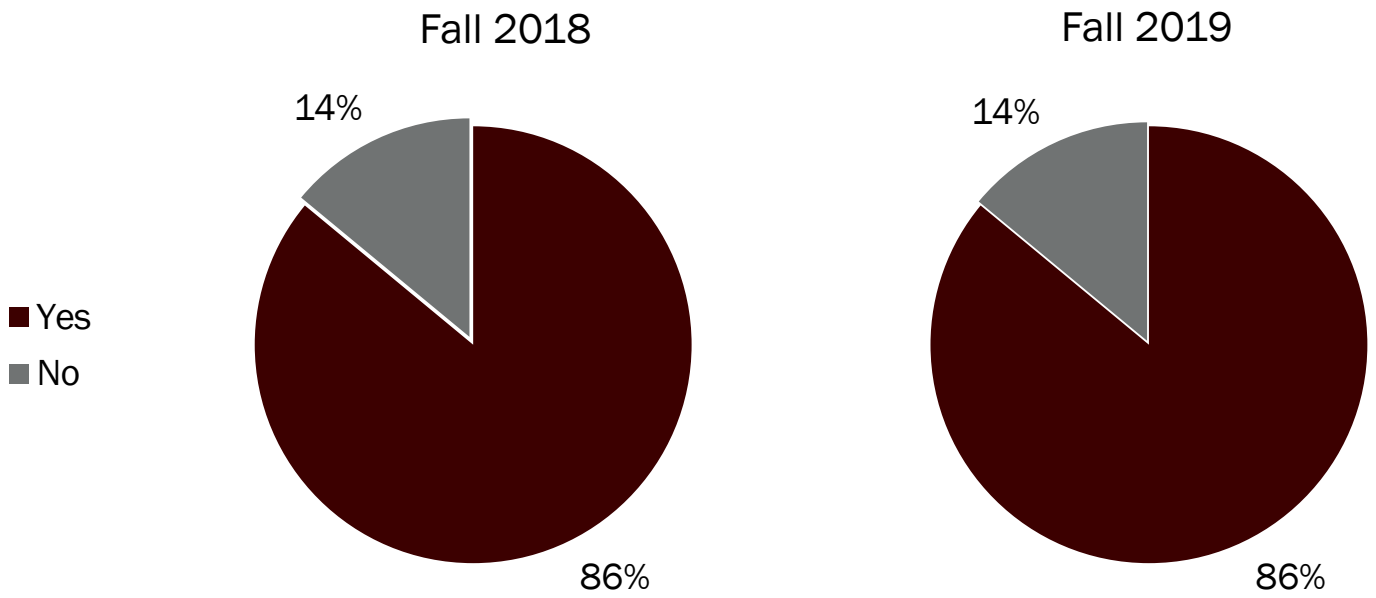
When registering for the Fall 2019 semester, were you able to register for all of the courses you needed?



Fall 2018 Responses: 4822
Fall 2019 Responses: 3794

ENGINEERING
TEXAS A&M UNIVERSITY

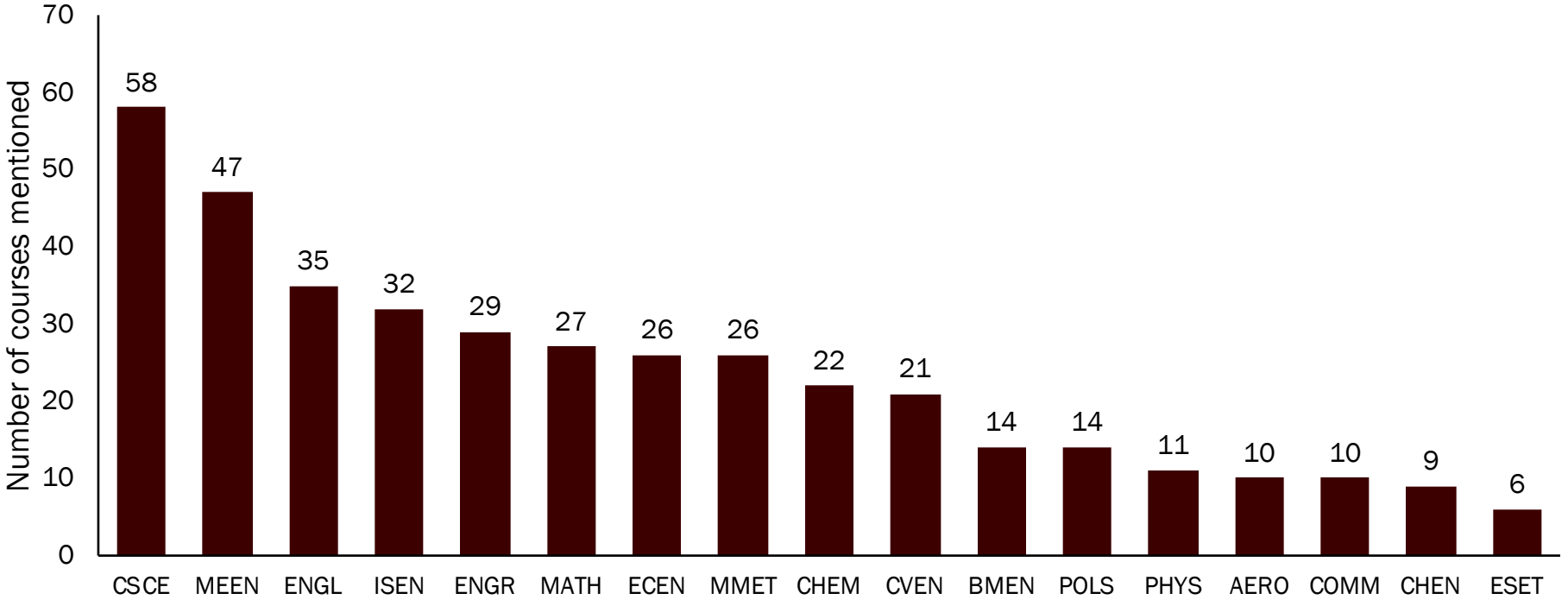
When registering, were you able to register for all of the courses you needed?



Asked to students who had difficulty registering for the Fall 2019 semester
Responses: 436

ENGINEERING
TEXAS A&M UNIVERSITY

Open-Ended: What courses were you unable to register for?



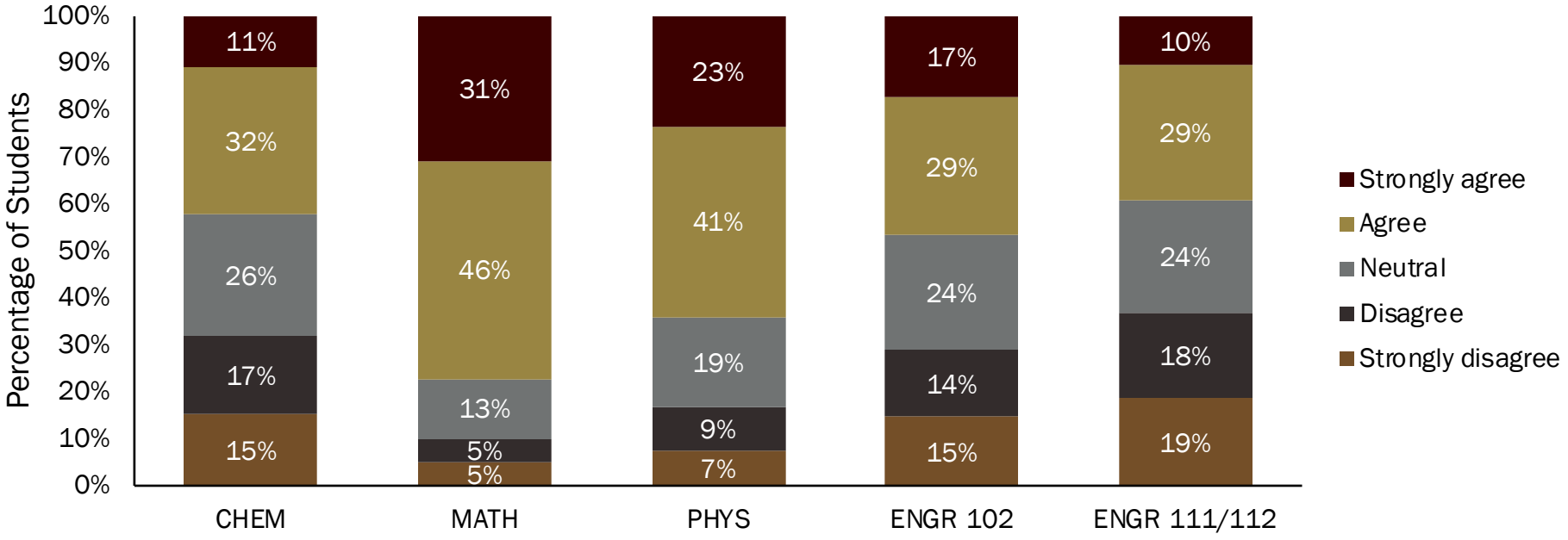
First-Year Coursework Questions

Asked to 2nd Year and higher undergraduate students only

Responses: 2607

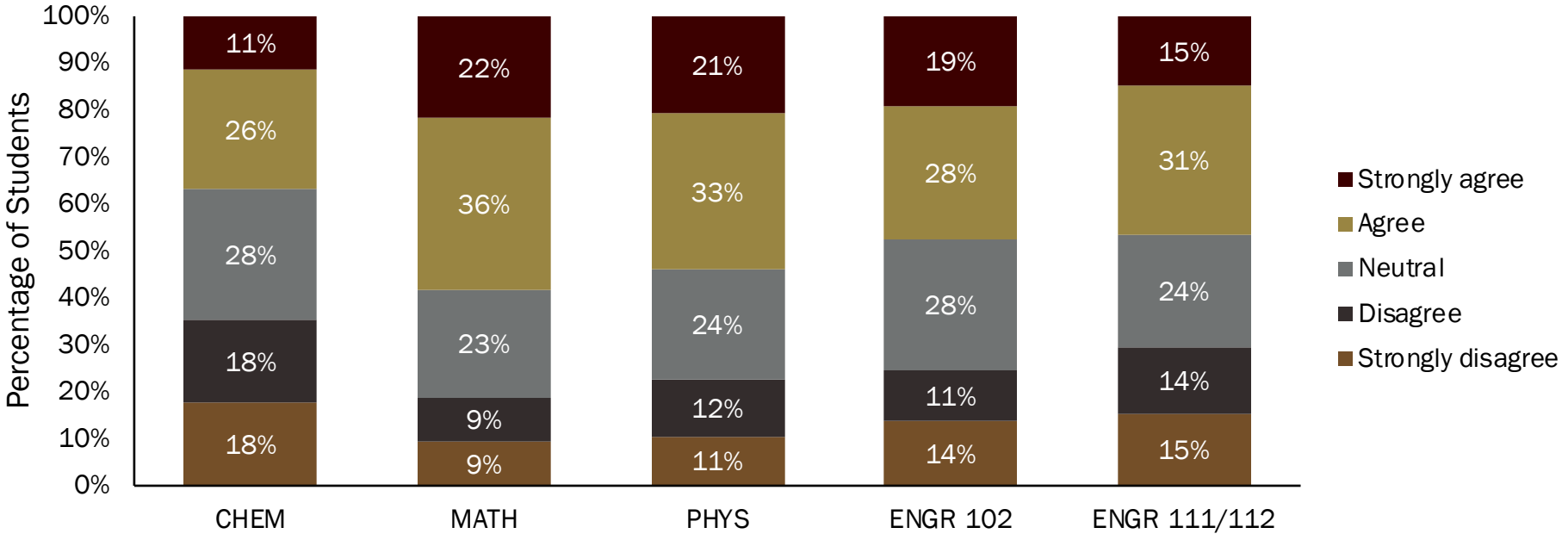
ENGINEERING
TEXAS A&M UNIVERSITY

My first-year coursework (CHEM, MATH, PHYS or ENGR) adequately prepared me for my upper-level engineering coursework.



Responses: 2598

My first-year coursework (CHEM, MATH, PHYS or ENGR) helped me decide that being an engineer was right for me.

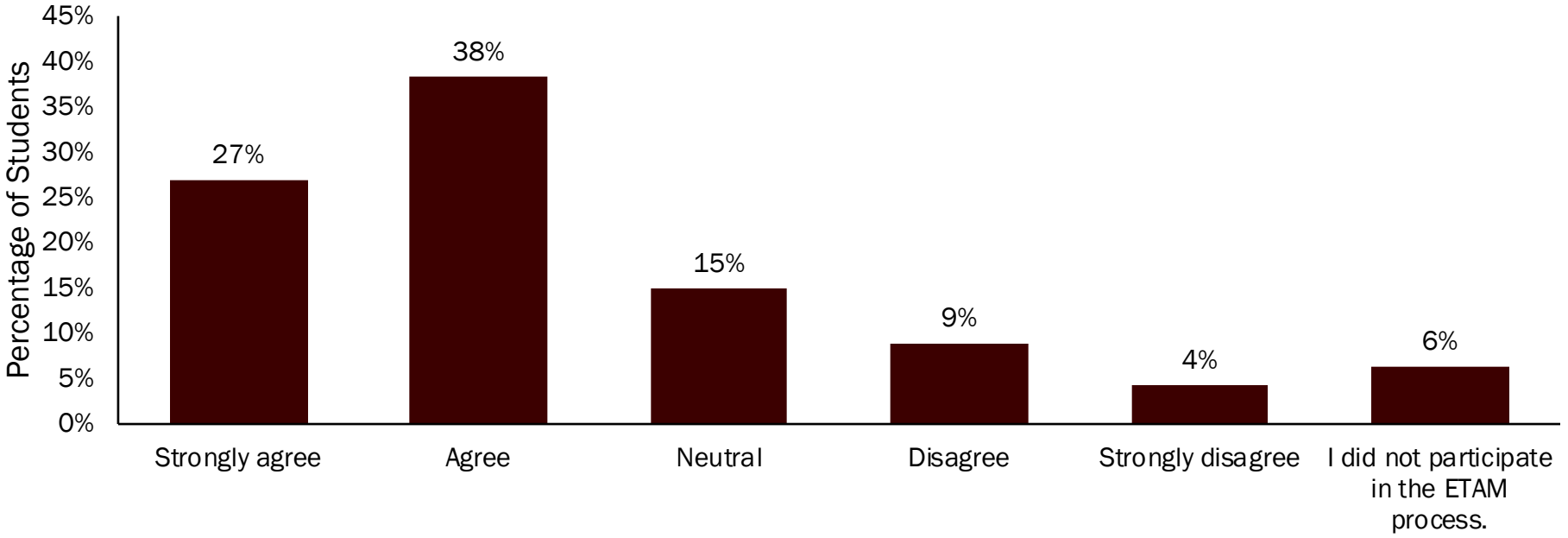


Entry-to-a-Major Questions

Asked only to 1st and 2nd year undergraduate students

Responses: 1495

I receive(d) sufficient information about the different majors to make an informed decision about my major.



Fall 2018 Responses: 1796
Fall 2019 Responses: 1495

ENGINEERING
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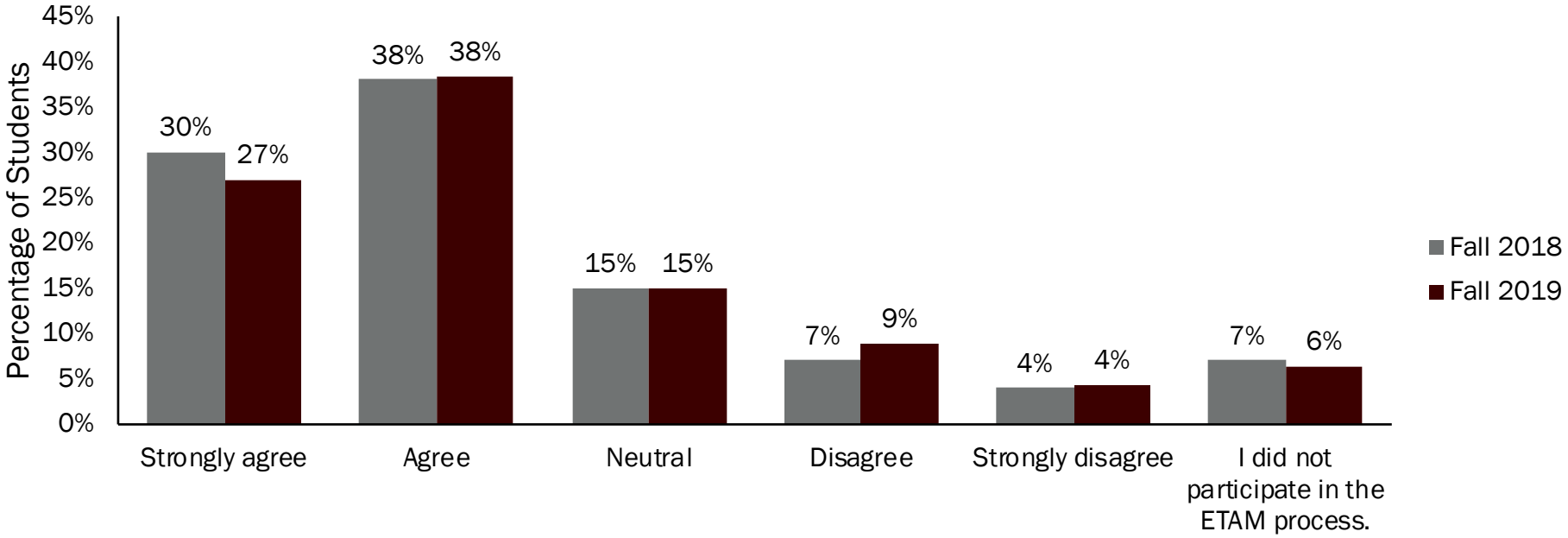
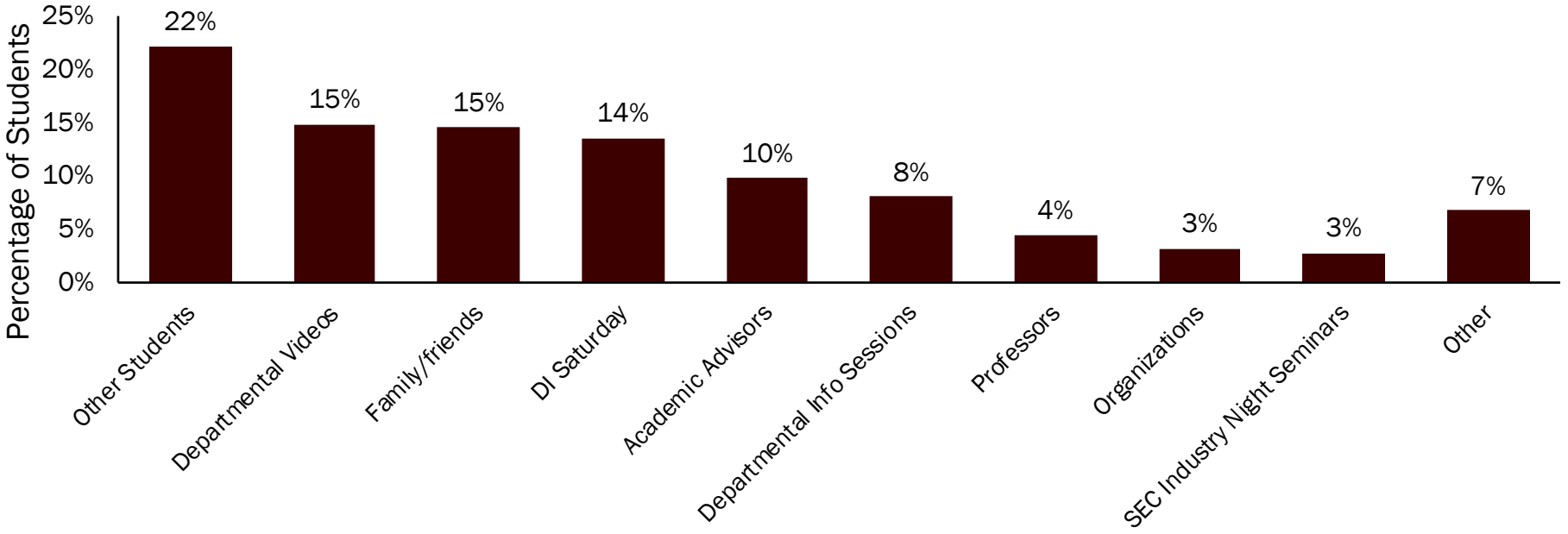
I receive(d) sufficient information about the different majors to make an informed decision about my major.



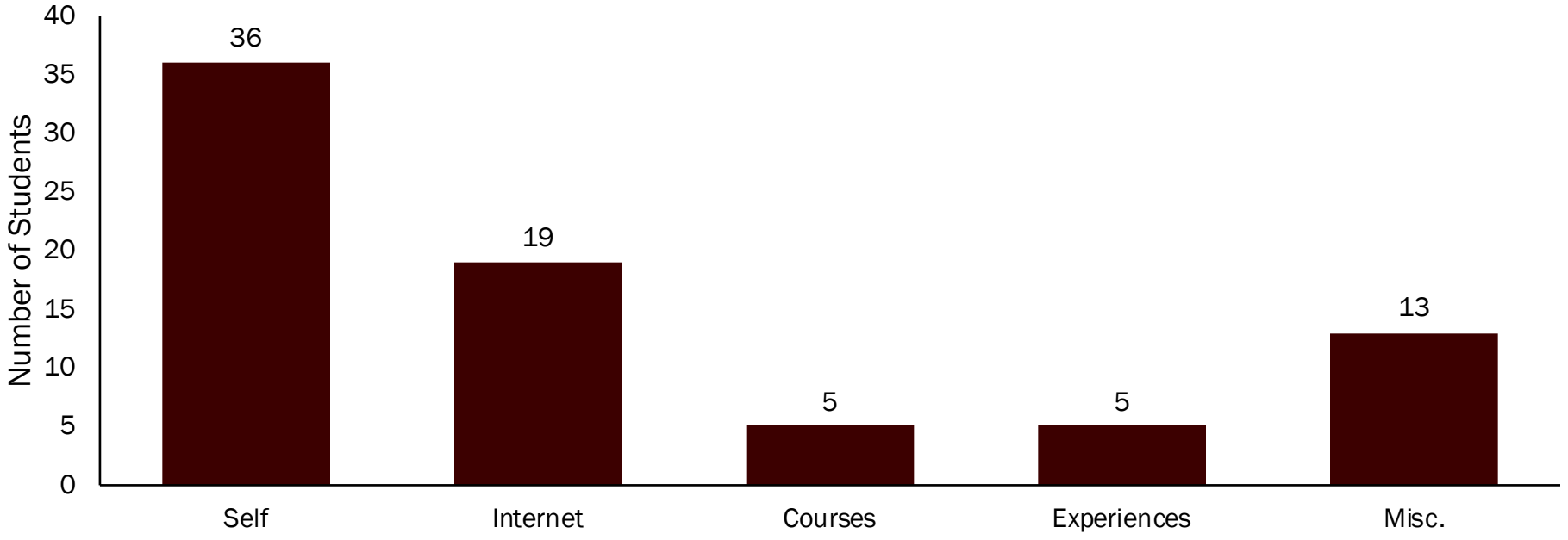
Responses: 1474

During your first year at Texas A&M University, what is/was the most helpful source of information when applying to your major?



Responses: 78

Open-Ended: **During your first year at Texas A&M University, what is/was the most helpful source of information when applying to your major? - Other**



Responses: 78

Open-Ended: **During your first year at Texas A&M University, what is/was the most helpful source of information when applying to your major? - Other**

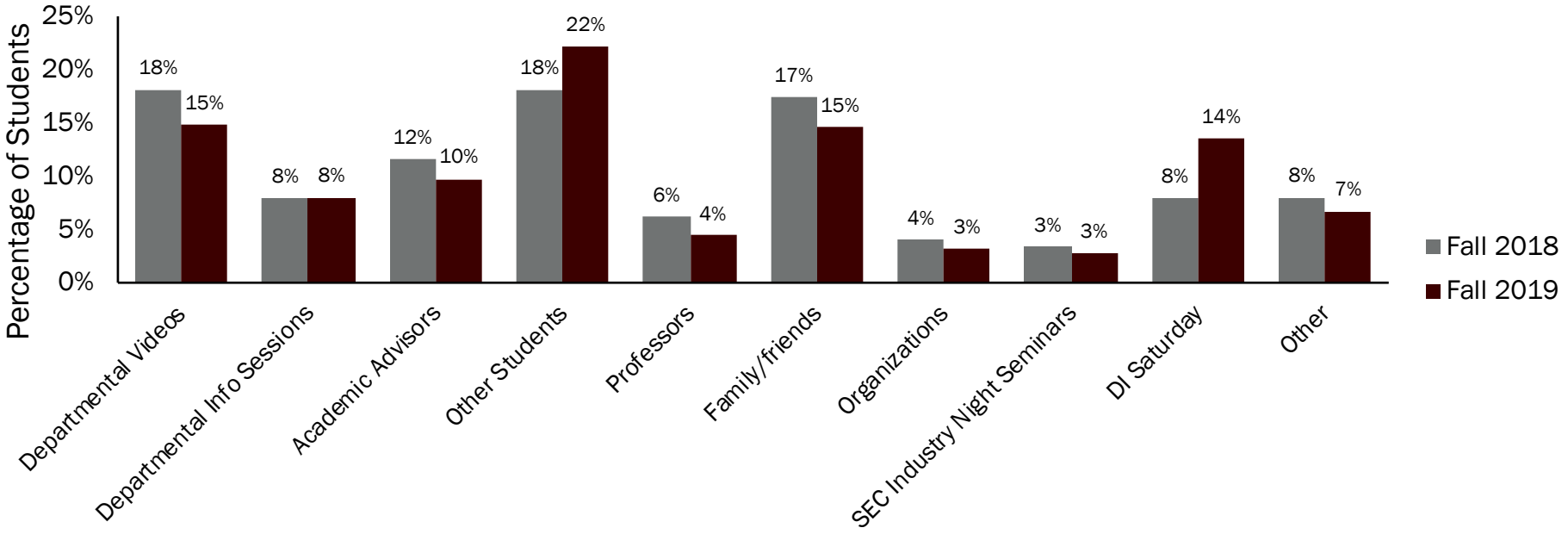
Experiences

- "Opportunities to indulge myself within the field I think I want to go into. For example, I thought I wanted to go into ECEN, so I am part of a research team. I later attended the TAMUDatathon, did applied coding/programming and realized I liked that more than electrical engineering."

Fall 2018 Responses: 1796
Fall 2019 Responses: 1474

ENGINEERING
TEXAS A&M UNIVERSITY

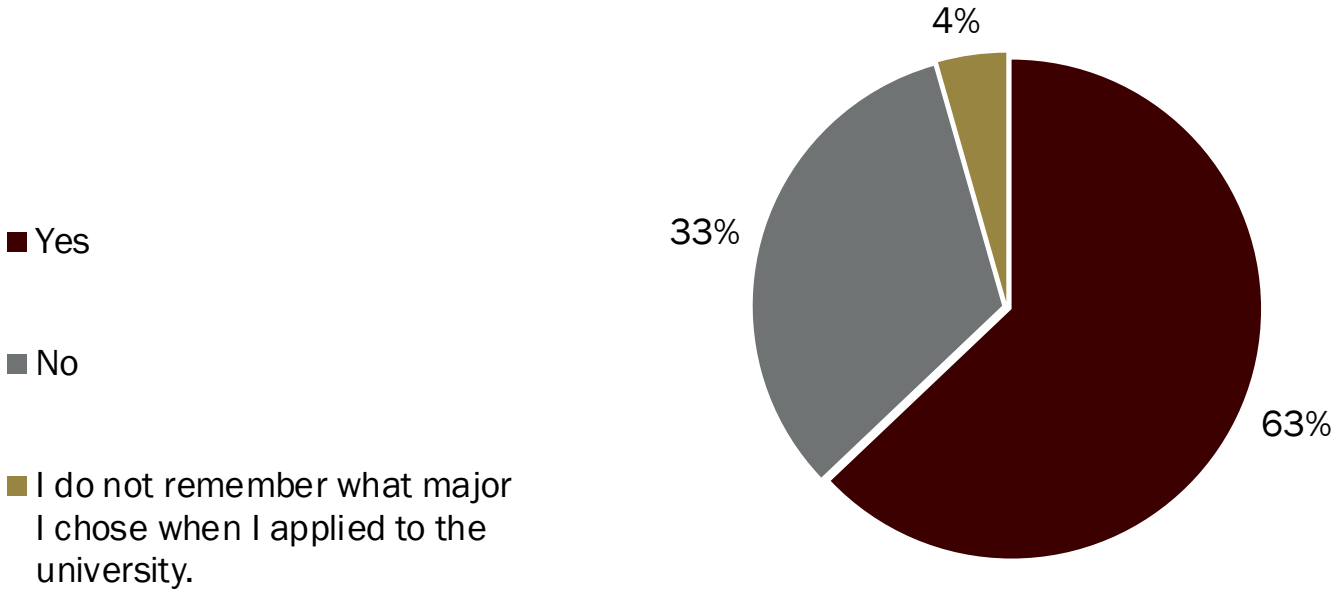
During your first year at Texas A&M University, what is/was the most helpful source of information when applying to your major?



Asked to 2nd Year UG
Responses: 701

ENGINEERING
TEXAS A&M UNIVERSITY

To your memory, when undergoing the ETAM process, was your first-choice major the same major you chose when you applied to TAMU?



Asked to 1st Year UG
Responses: 788

ENGINEERING
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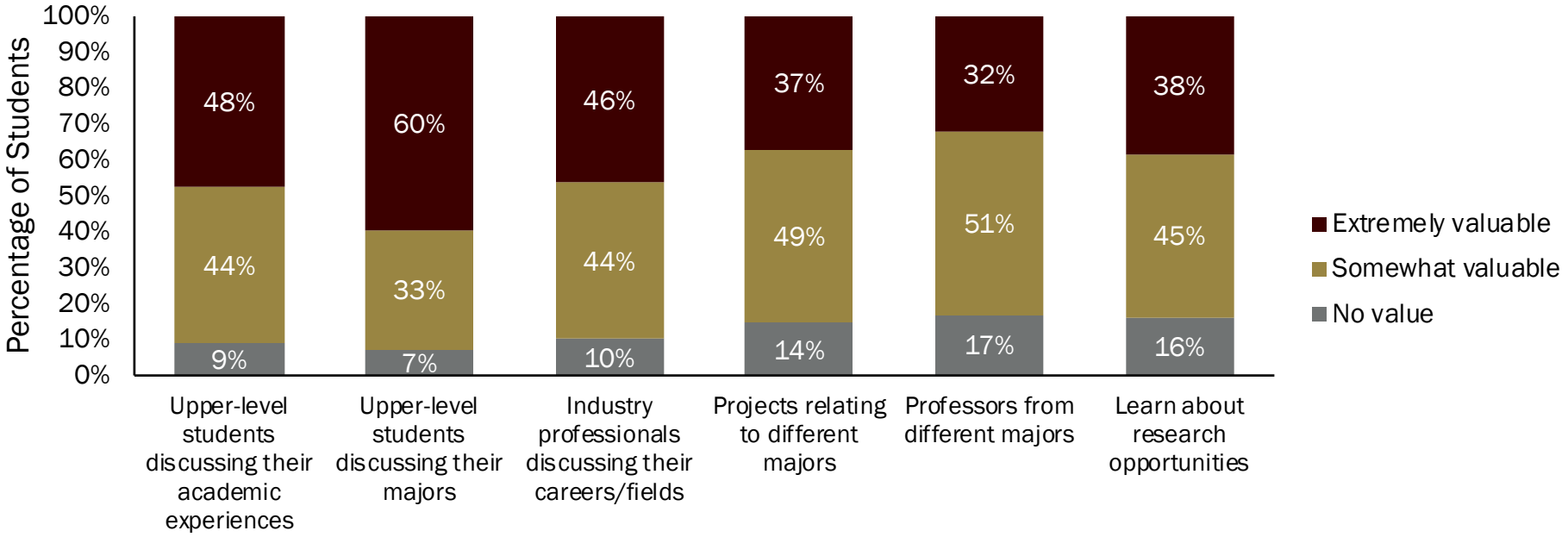
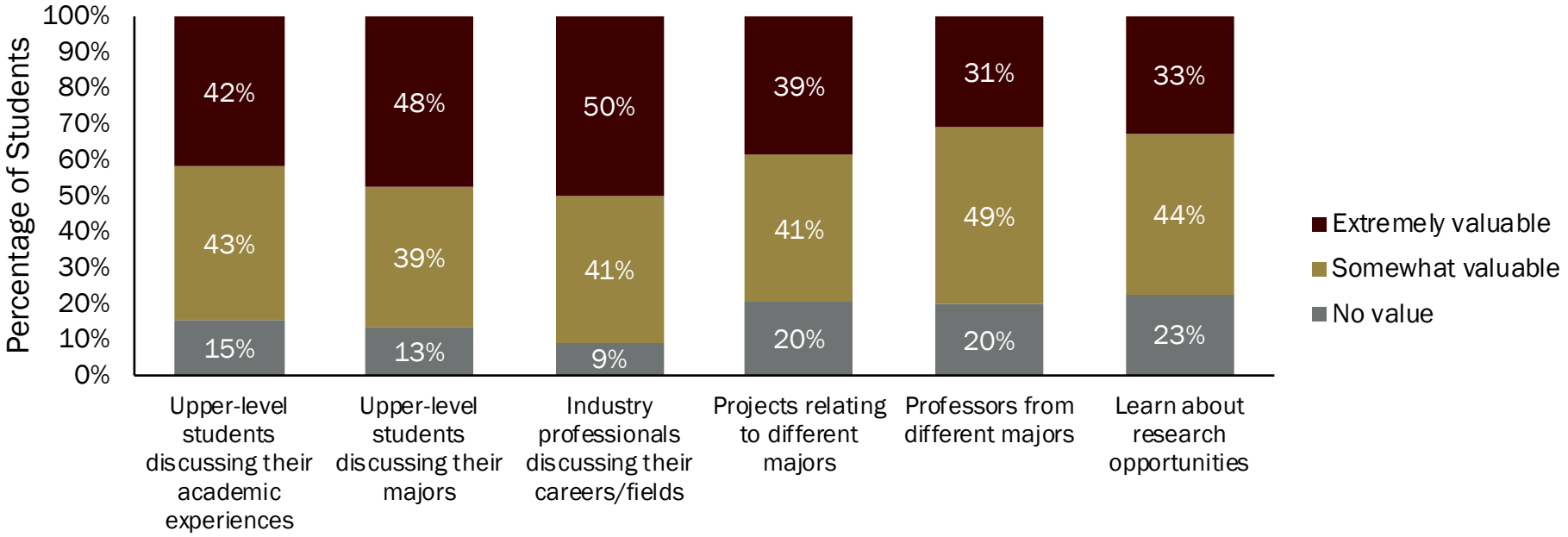
Please rate how valuable you would find each of the following additions to your ENGR 102 class.



Asked to 2nd Year UG
Responses: 686

ENGINEERING
TEXAS A&M UNIVERSITY

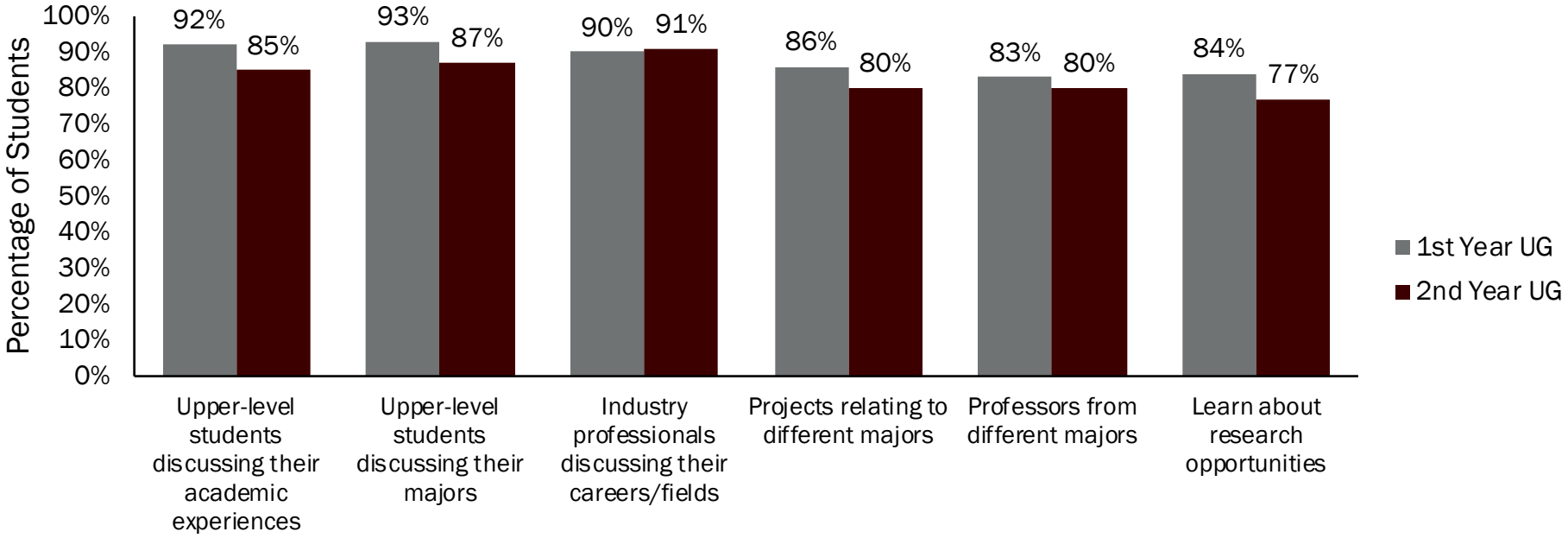
Please rate how valuable you would have found each of the following additions to your ENGR 102 class.



1st Year UG Responses: 788
2nd Year UG Responses: 686

ENGINEERING
TEXAS A&M UNIVERSITY

Please rate how valuable you would find/have found each of the following additions to your ENGR 102 class.

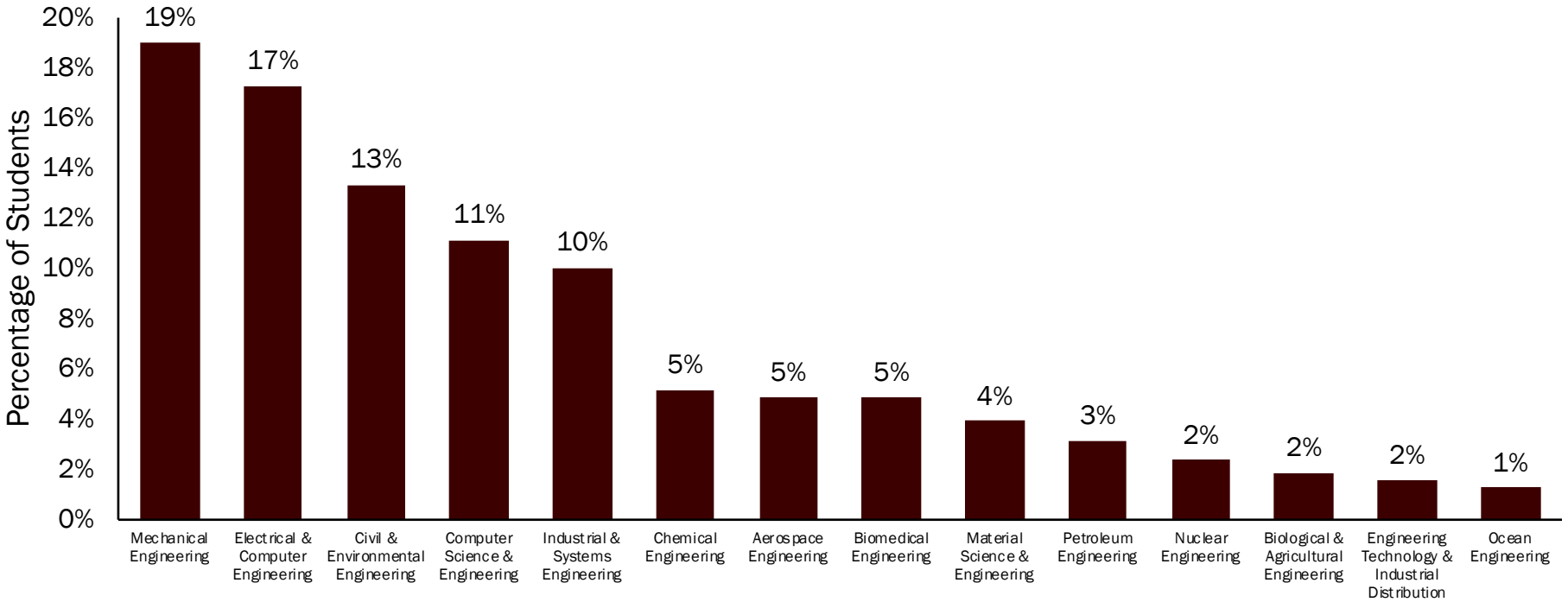


Graduate Student Environment Questions

Asked only to graduate students

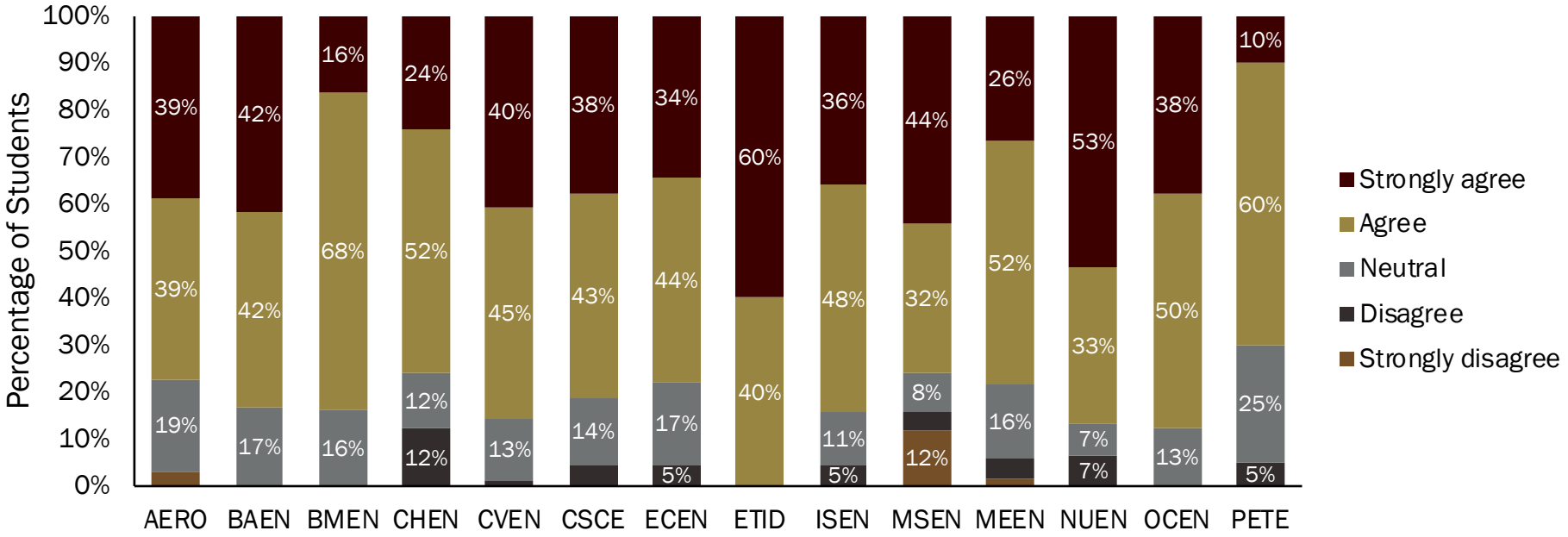
Responses: 636

What department are you in?



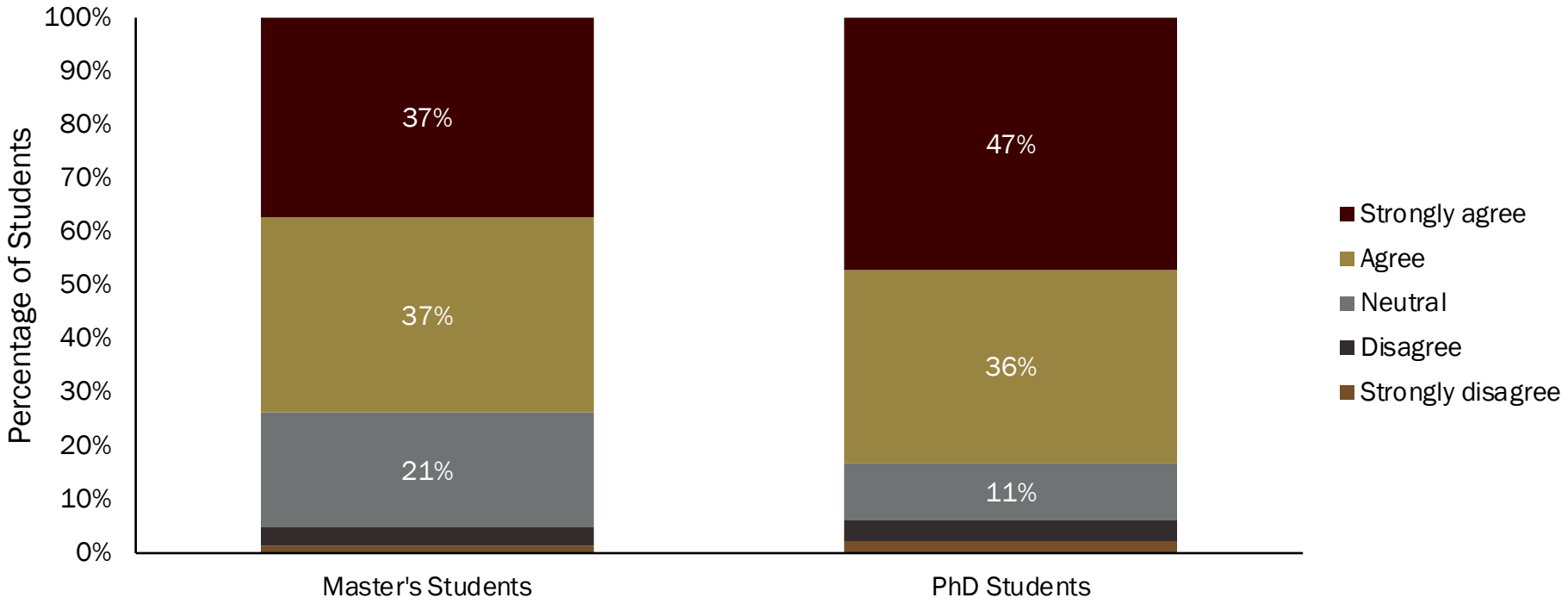
Responses: 628

My department creates a welcoming environment by fostering good faculty/student relationships.



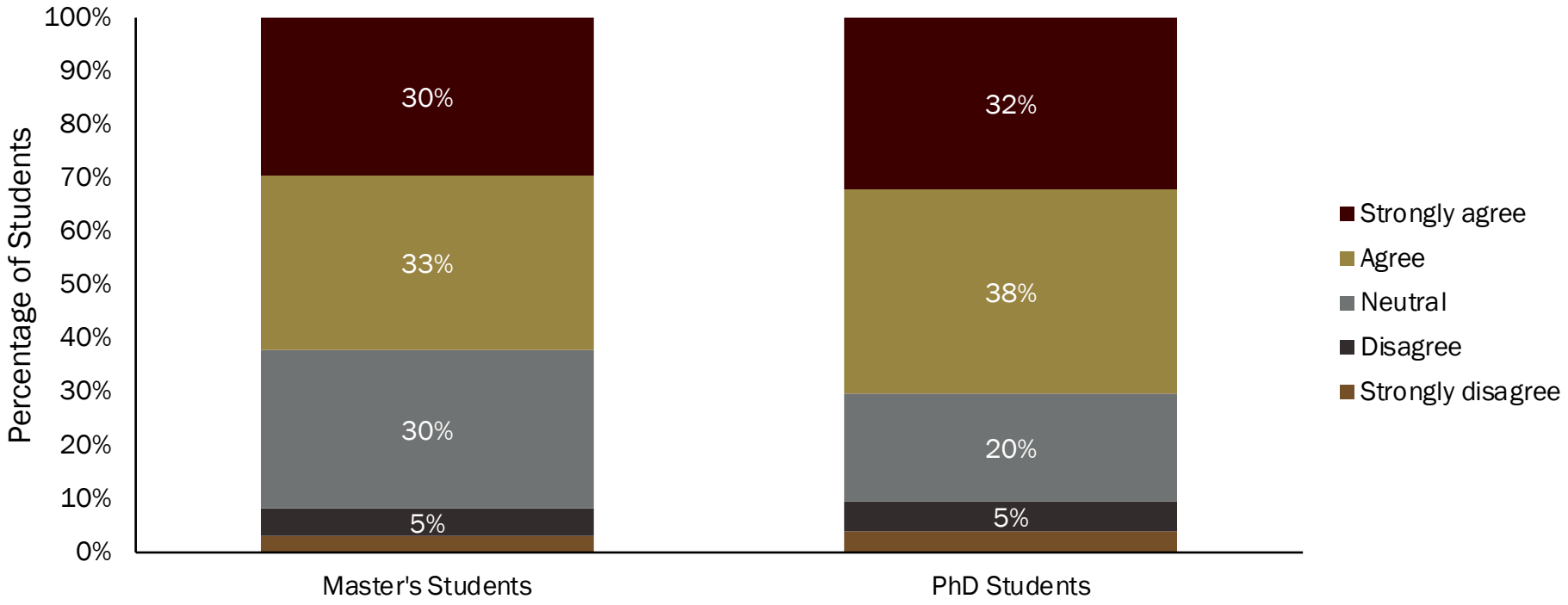
Responses: 628

I have a strong and healthy *professional* relationship with my advisor.



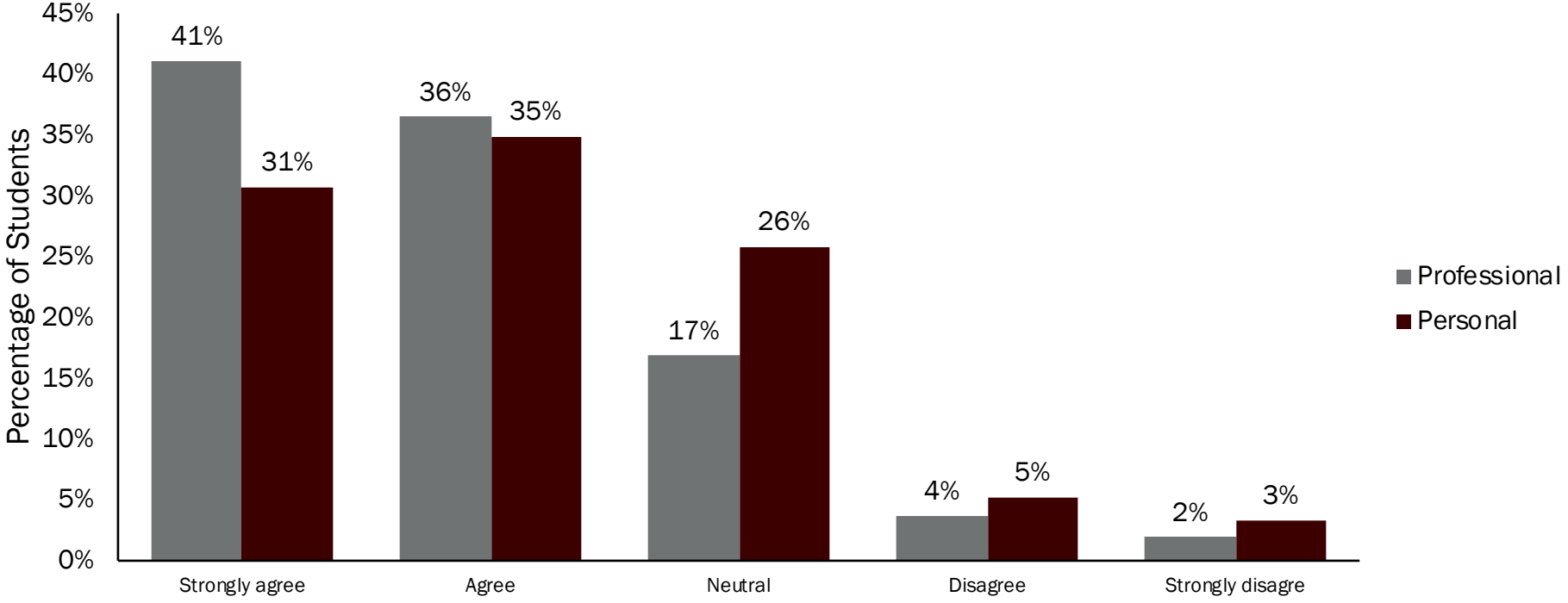
Responses: 628

I have a strong and healthy *personal* relationship with my advisor.



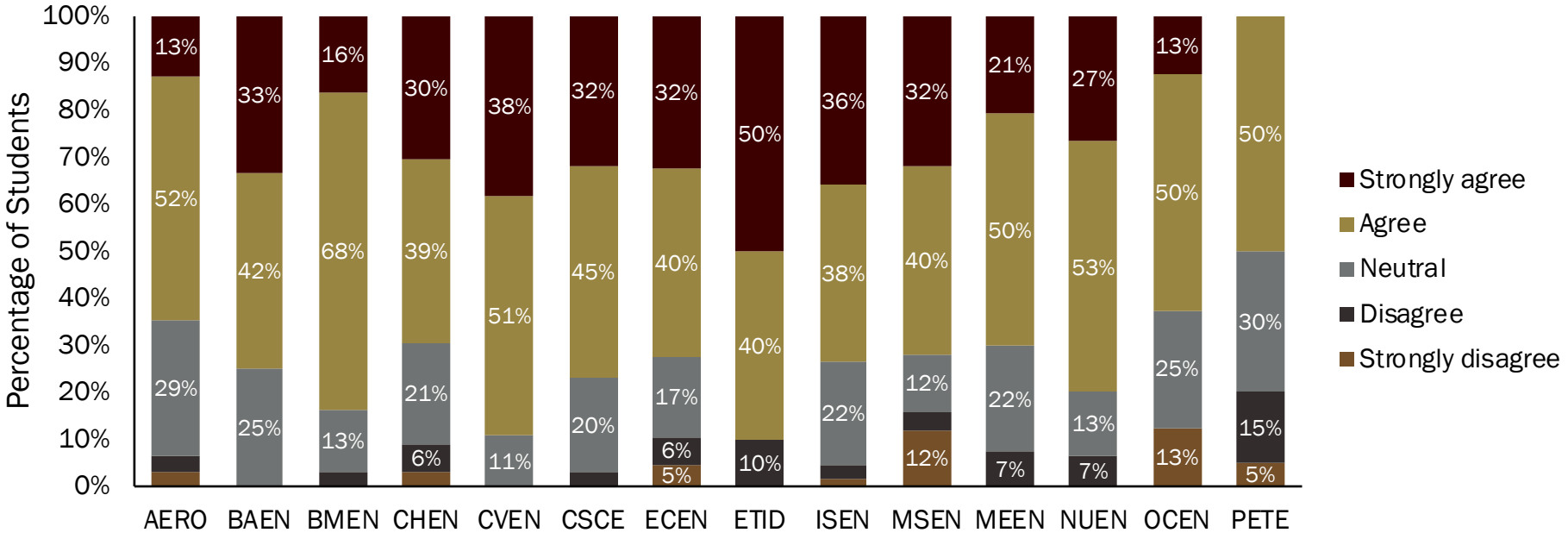
Responses: 628

I have a strong and healthy ____ relationship with my advisor.



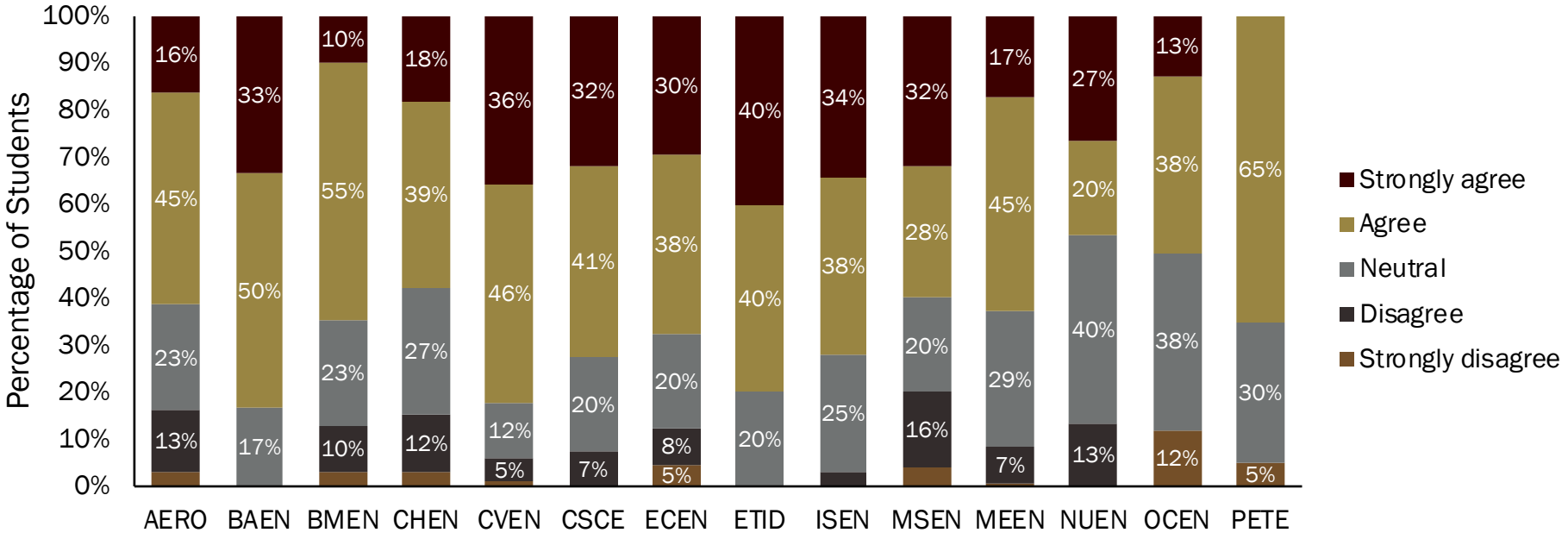
Responses: 628

My department creates a welcoming environment by providing social support and opportunities to interact with other graduate students.



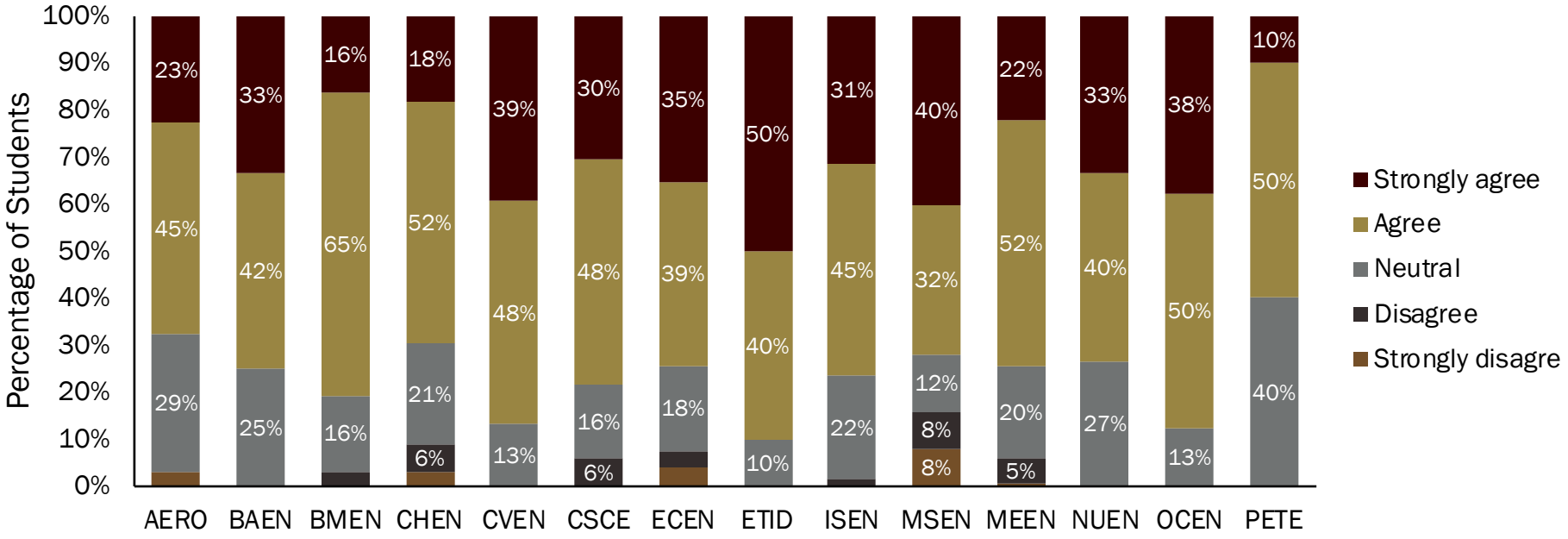
Responses: 628

My department creates a welcoming environment by allowing me to work with other graduate students and faculty members, other than my advisor and other graduate students in my lab.



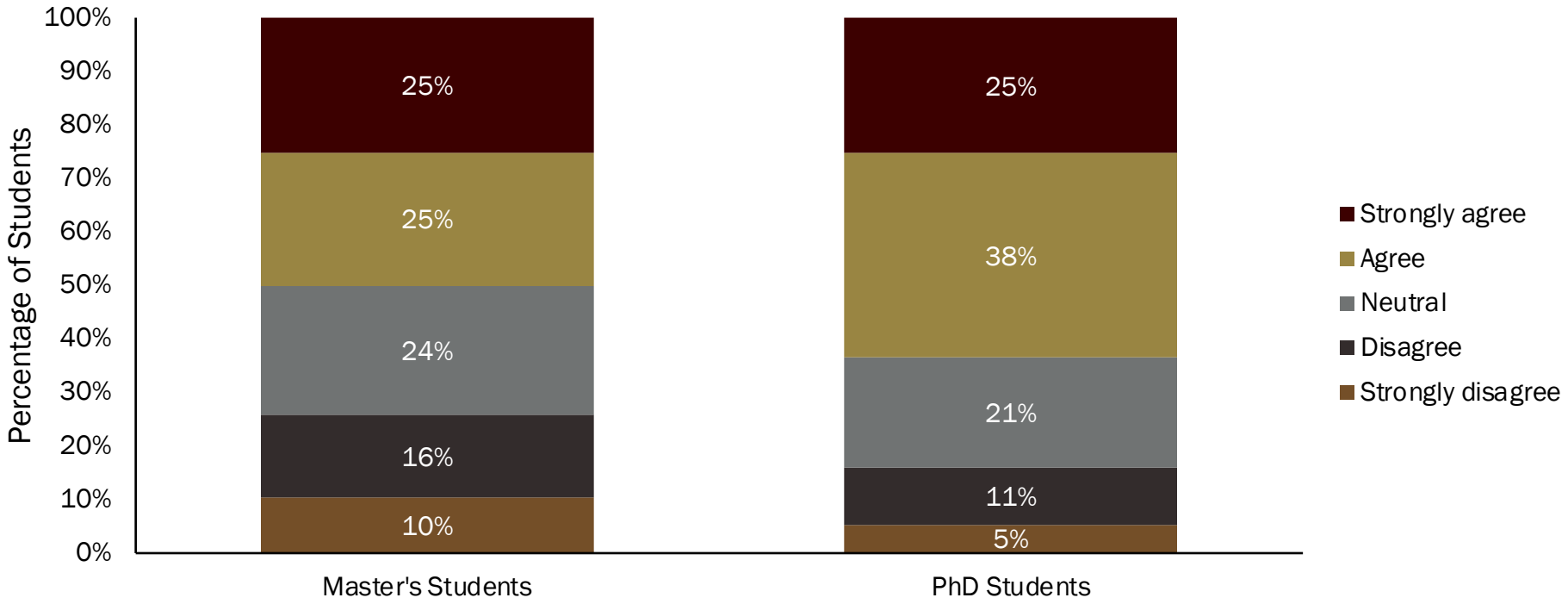
Responses: 628

My department creates a welcoming environment by creating an inclusive atmosphere.



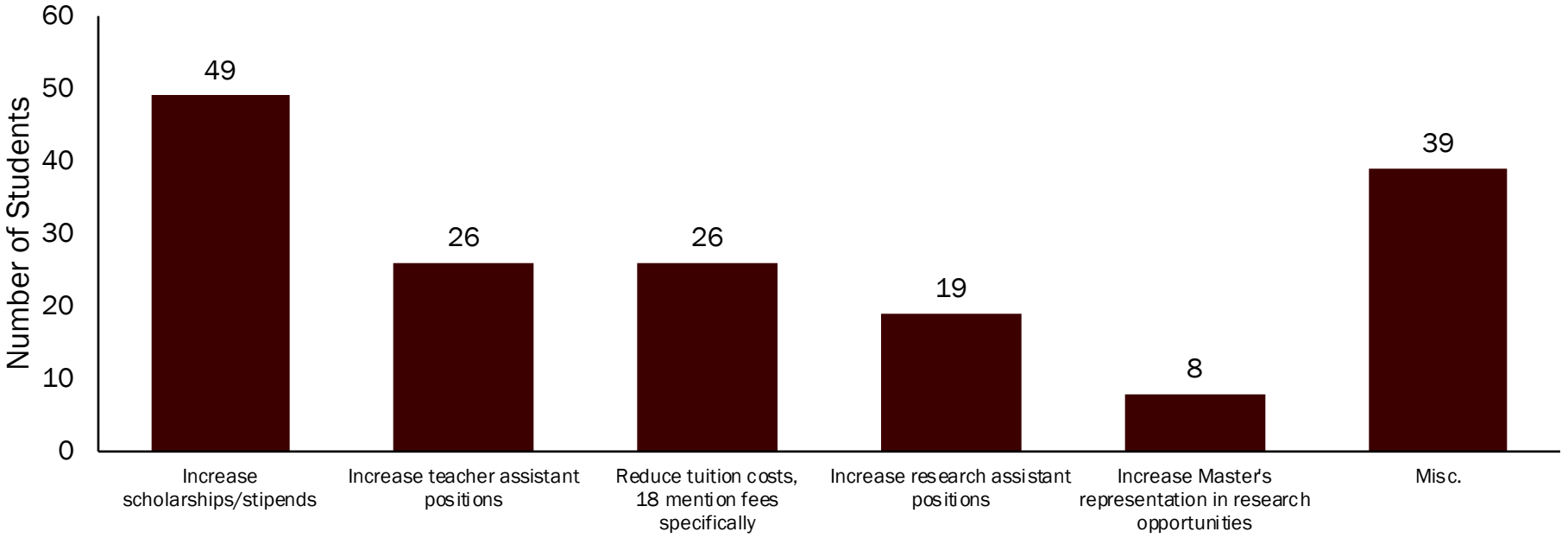
Responses: 628

I am given adequate financial support to succeed in graduate school.



Responses: 167

Open-Ended: What additional financial support do you feel the College of Engineering can provide to assist you as a graduate student?



Responses: 181

Open-Ended: What additional financial support do you feel the College of Engineering can provide to assist you as a graduate student?

Reduce tuition costs

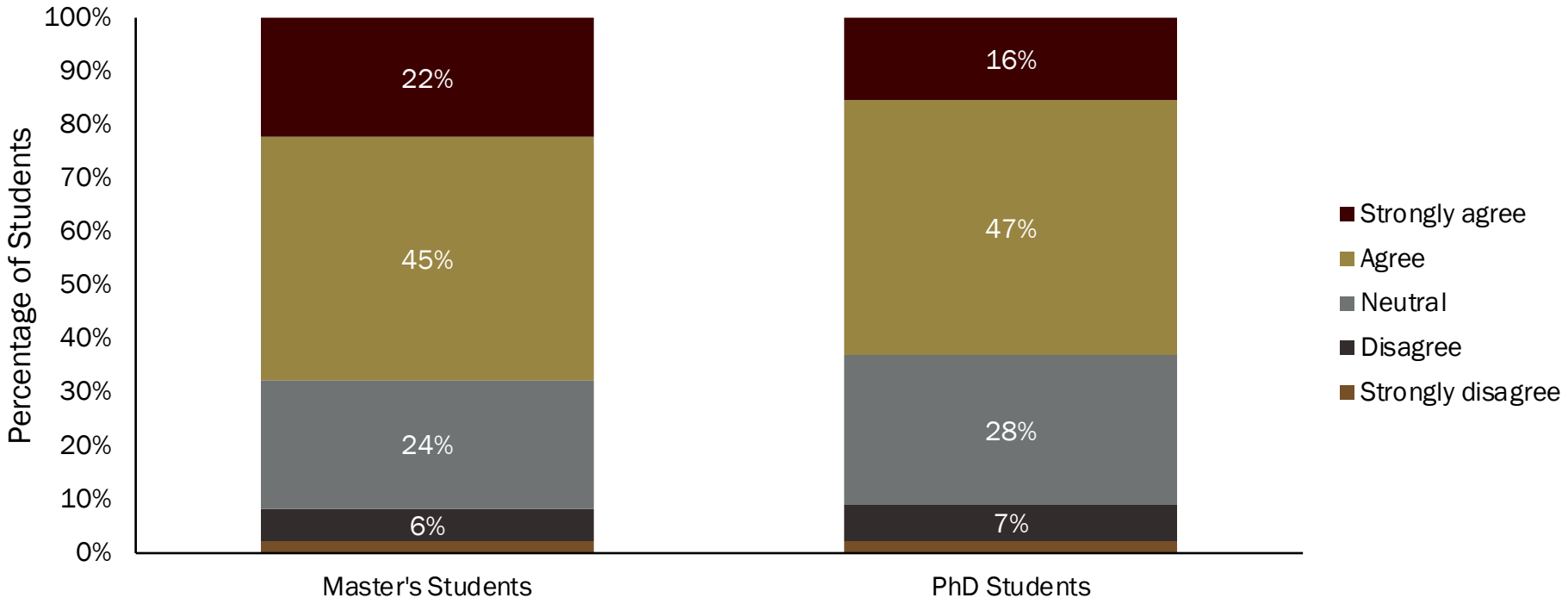
- "The increase in tuition and fees for Fall 2019 and onwards has officially made getting a ME here unsustainable for me. I was previously able to pay for it using internship money ($35/hr), but now I would need to work my internship for 6 mos. to pay for 2 semesters."

Increase Master's representation in research opportunities

- "Providing assistantships to Masters students. PhD students are almost always preferred over us."

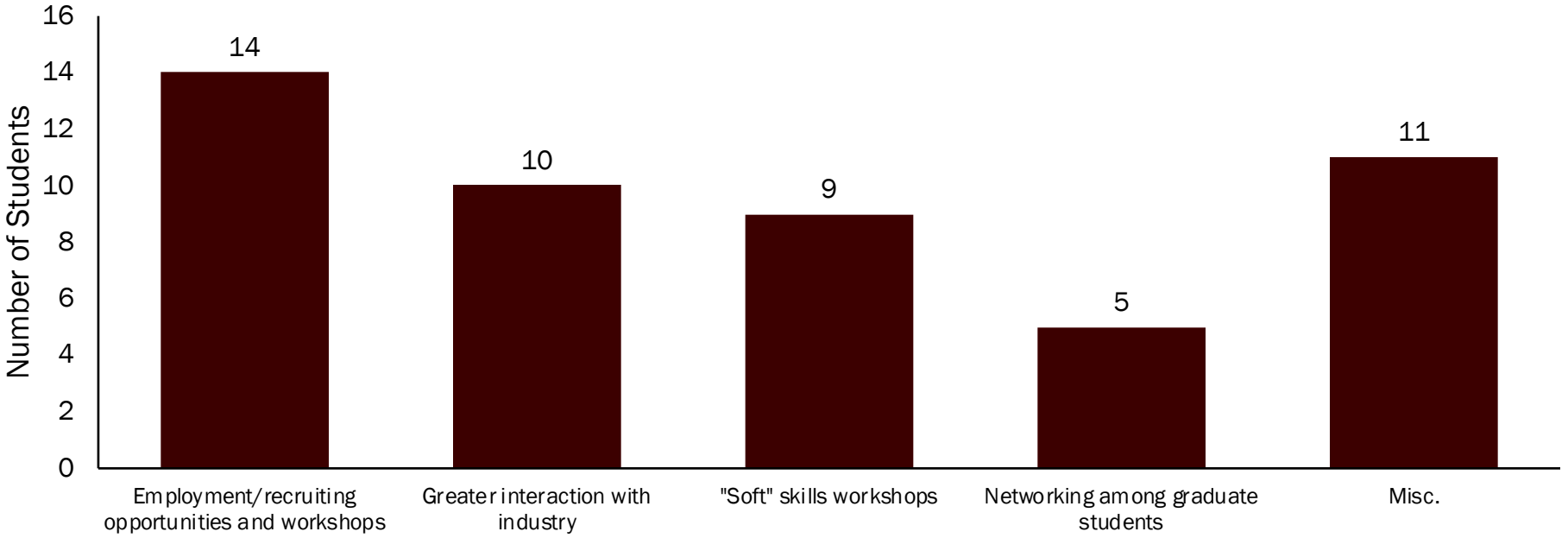
Responses: 628

I am receiving ample professional development from the College of Engineering.



Responses: 49

Open-Ended: What additional professional development resources can the College of Engineering provide to graduate students?



Responses: 49

Open-Ended: What additional professional development resources can the College of Engineering provide to graduate students?

Greater interaction with industry

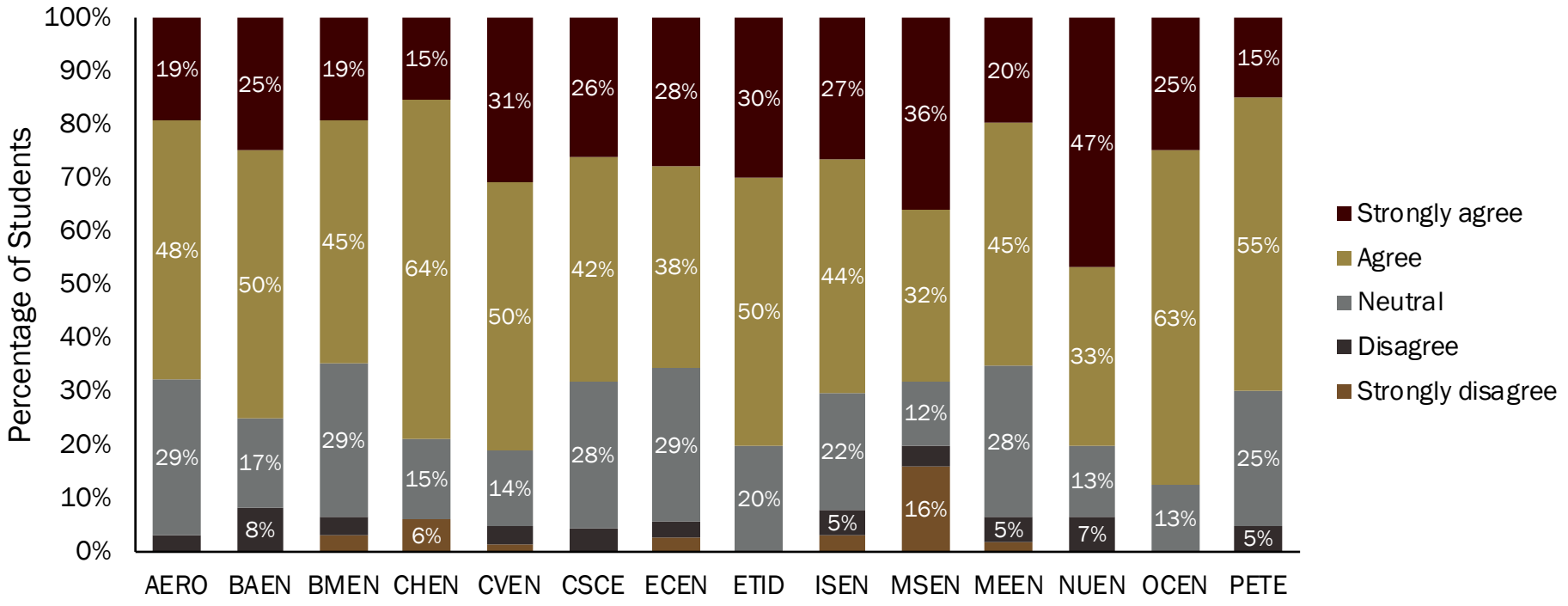
- "There is (and rightly so for most people) too much emphasis on research and PhD programs. There needs to be something for student getting a masters who want to go into industry and consulting."

Employment/recruiting opportunities and workshops

- "More interactions with industry leaders, more recruiting opportunities, ability to go for internships (some PIs don't allow students to go on internships), professional development classes as part of graduate school training especially if the grad students want to go outside of academia."

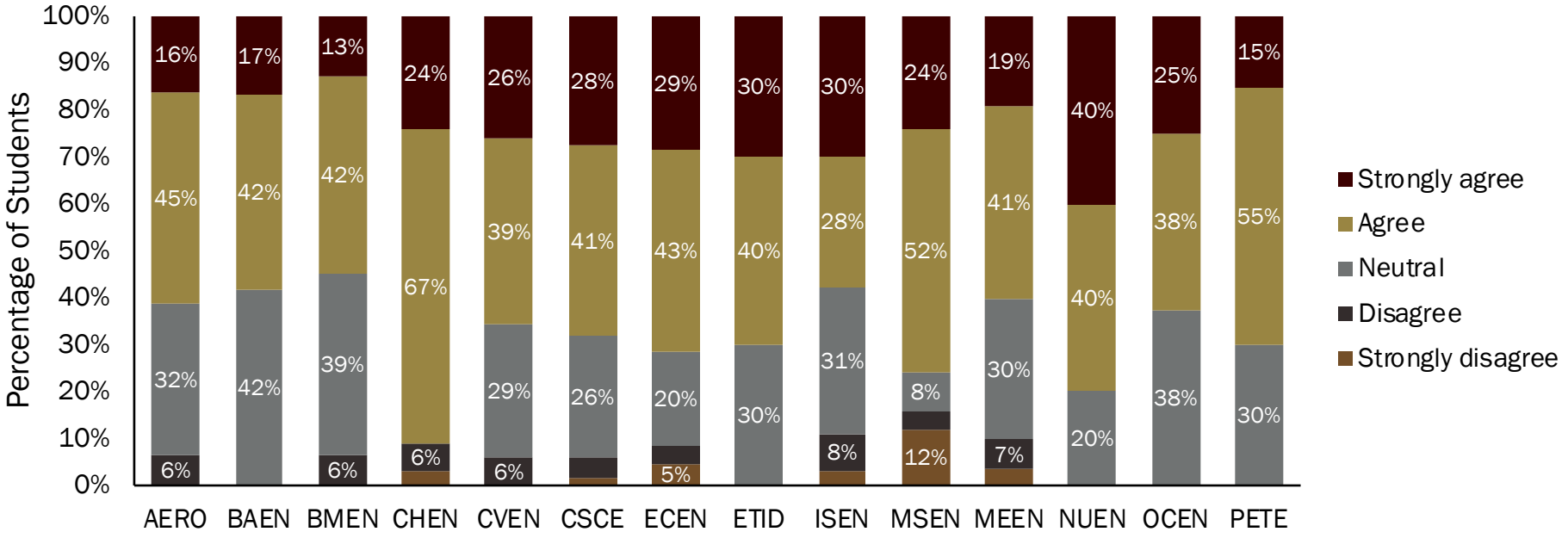
Responses: 628

I am able to succeed academically in my department because of helpful advising.



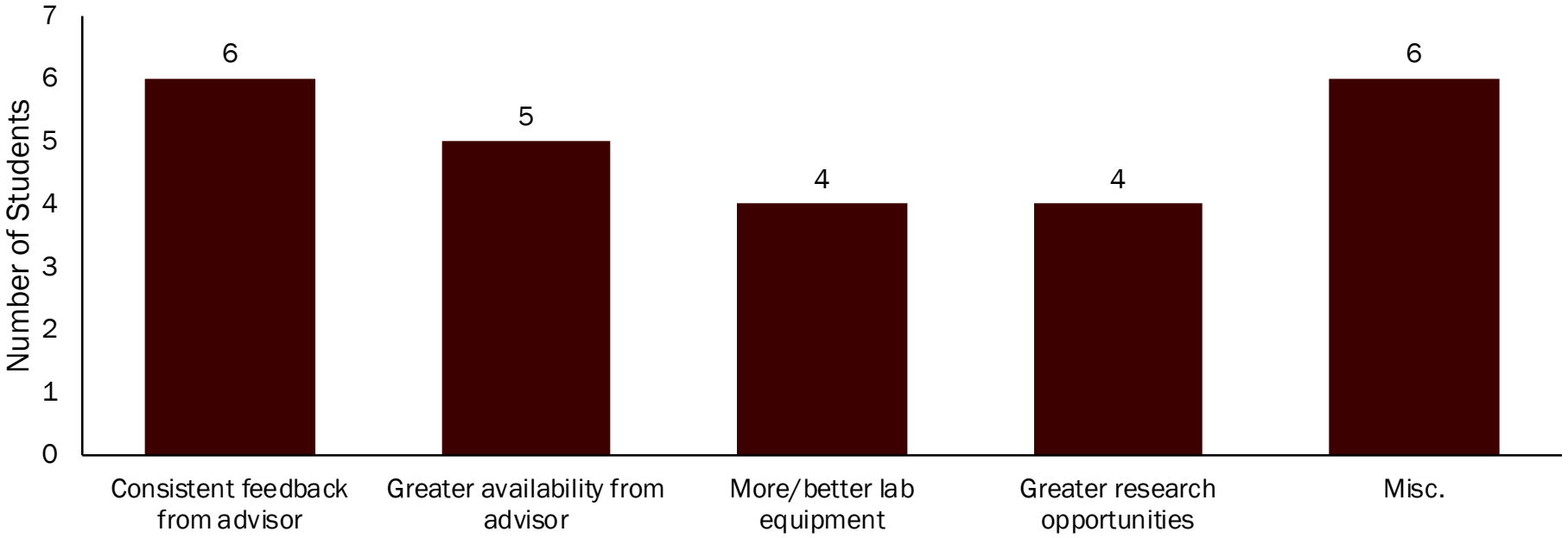
Responses: 628

I am able to succeed academically in my department because I am given sufficient research support.



Responses: 25

Open-Ended: What are additional guidance/resources from your research advisor that would help you succeed academically?



Responses: 25

Open-Ended: What are additional guidance/resources from your research advisor that would help you succeed academically?

Consistent feedback from advisor

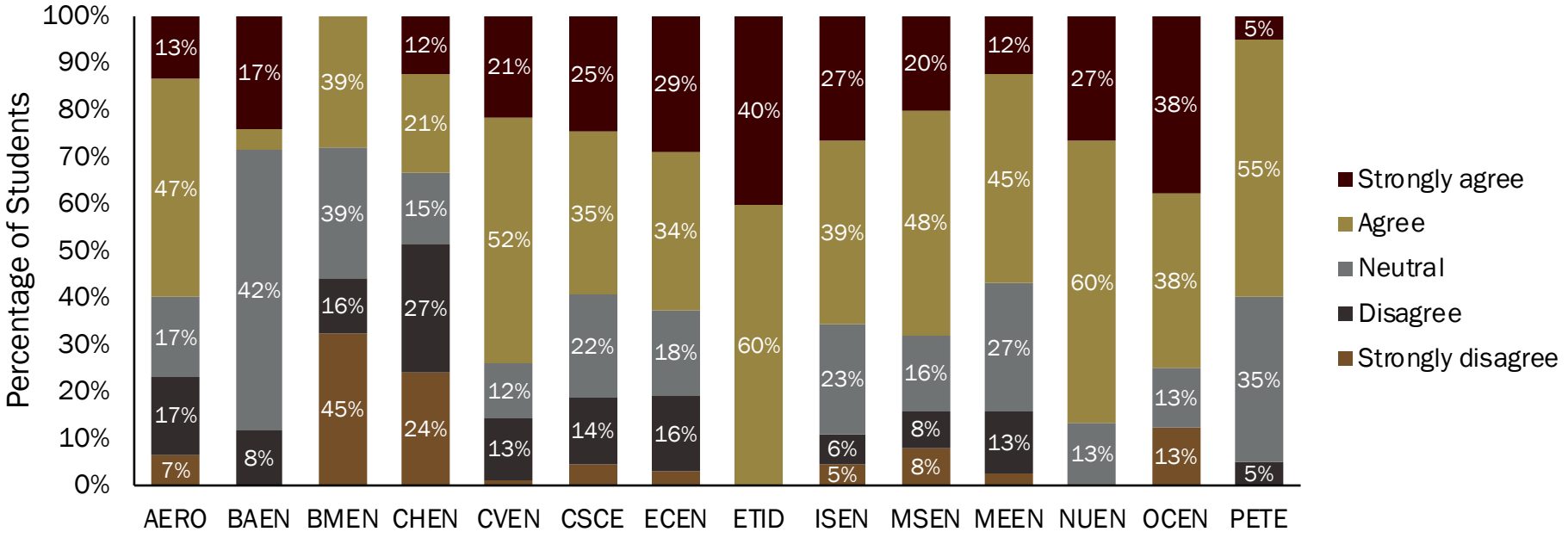
- “Being willing to provide research feedback during academic breaks, being encouraging when students adopt good research practices for research reproducibility”
- “Initial regular sessions focusing more on learning followed by focused research targets.”

Greater availability from advisor

- “Advisors appear to place lowest focus and priority on Graduate program. Delayed response time and minimum amount of feedback provided.”

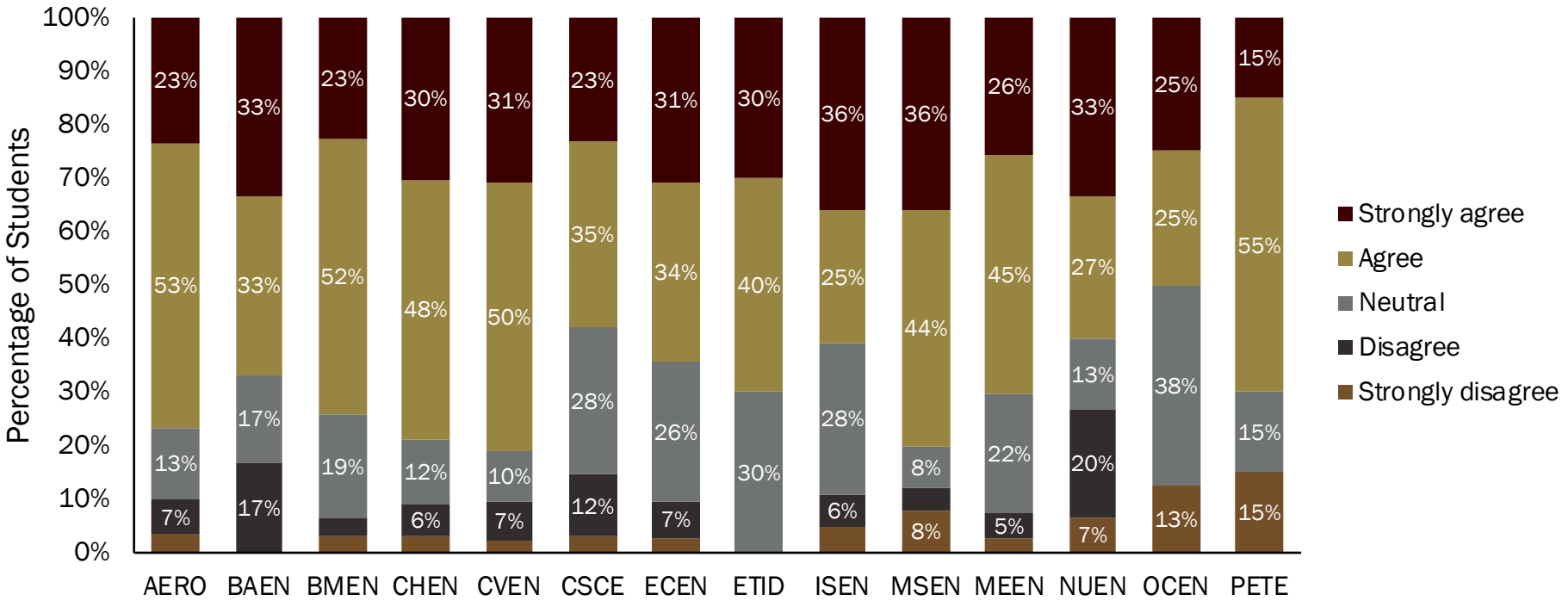
Responses: 626

I am able to succeed academically in my department because of sufficient course availability.



Responses: 626

I am given sufficient lab/office space as a graduate student.



Asked only to GS who indicated TA experience
Responses: 302

ENGINEERING
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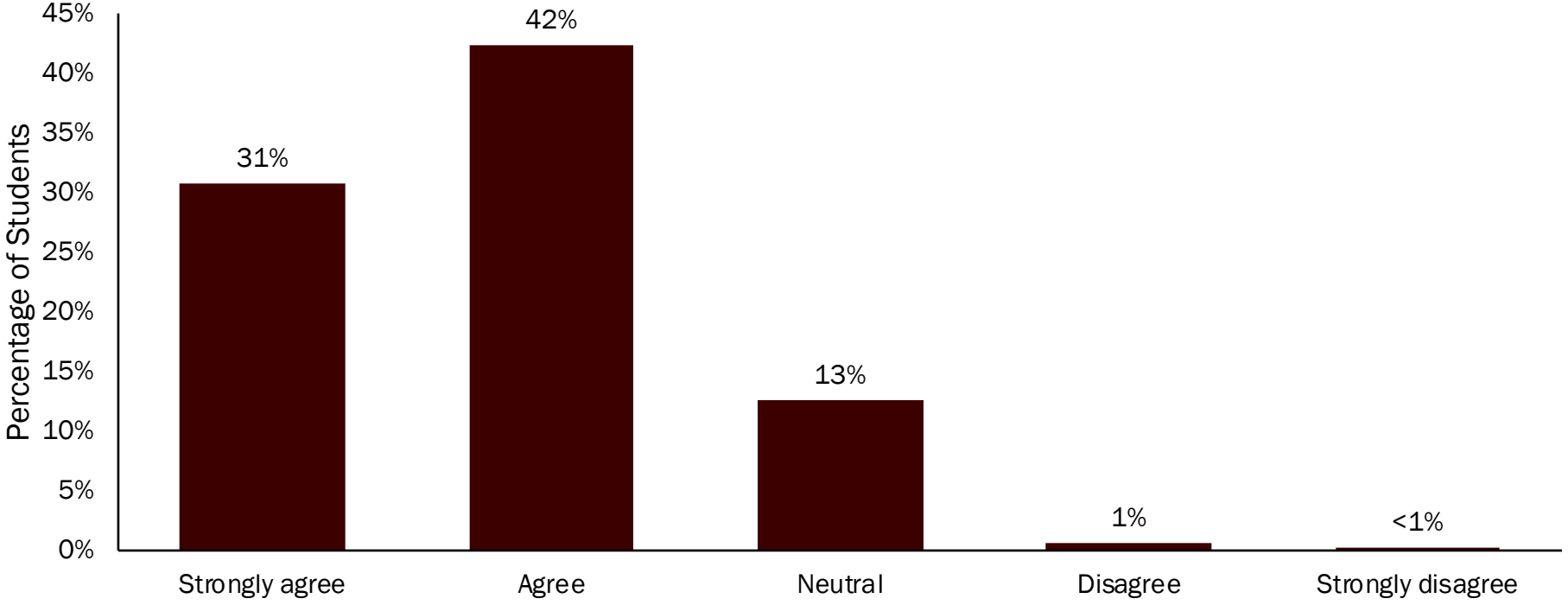
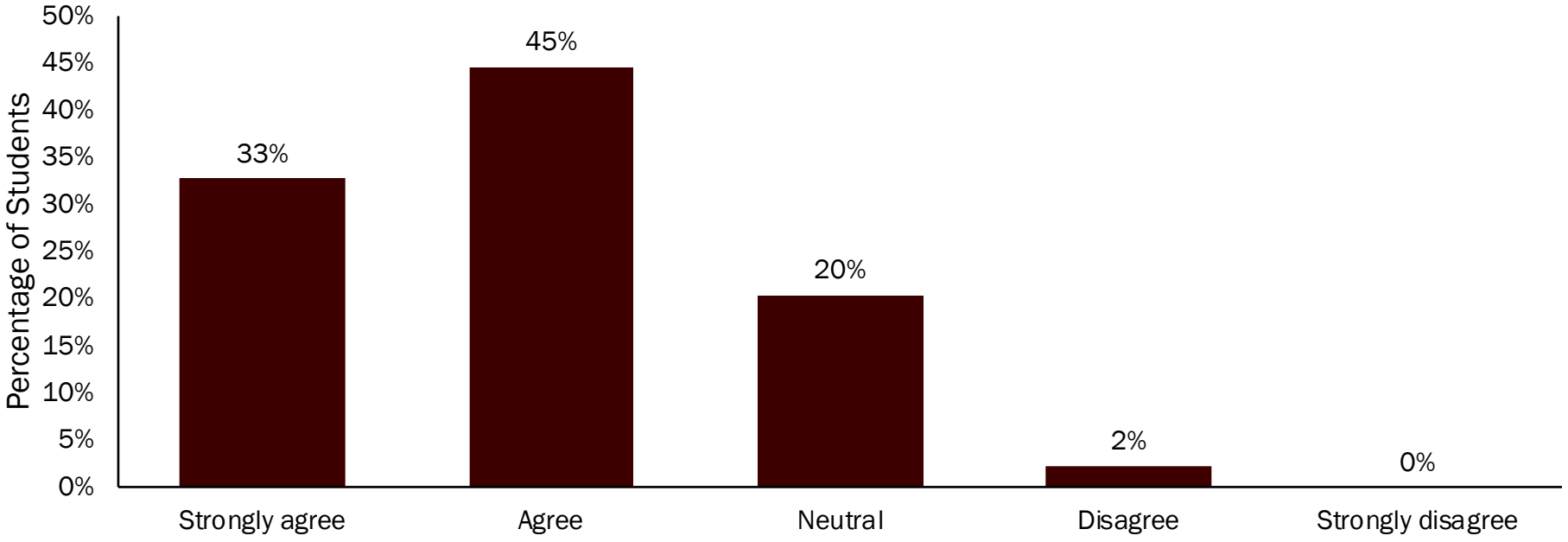
As a TA, I feel competent in instructing undergraduate students.



Asked only to GS who indicated TA experience
Responses: 260

ENGINEERING
TEXAS A&M UNIVERSITY

As a TA, I feel prepared each time I enter a lecture or lab course in which I am the instructor.

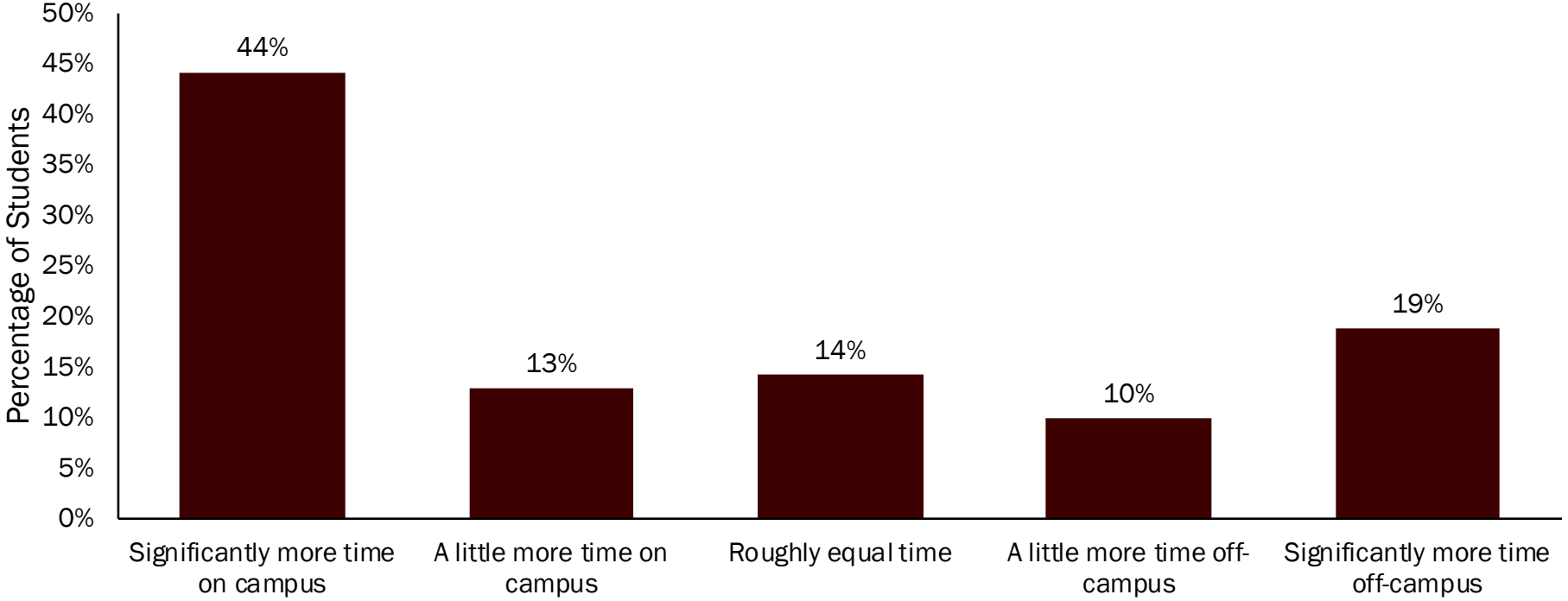


ZACH/Use of Instructional Technology Questions

Asked to all students

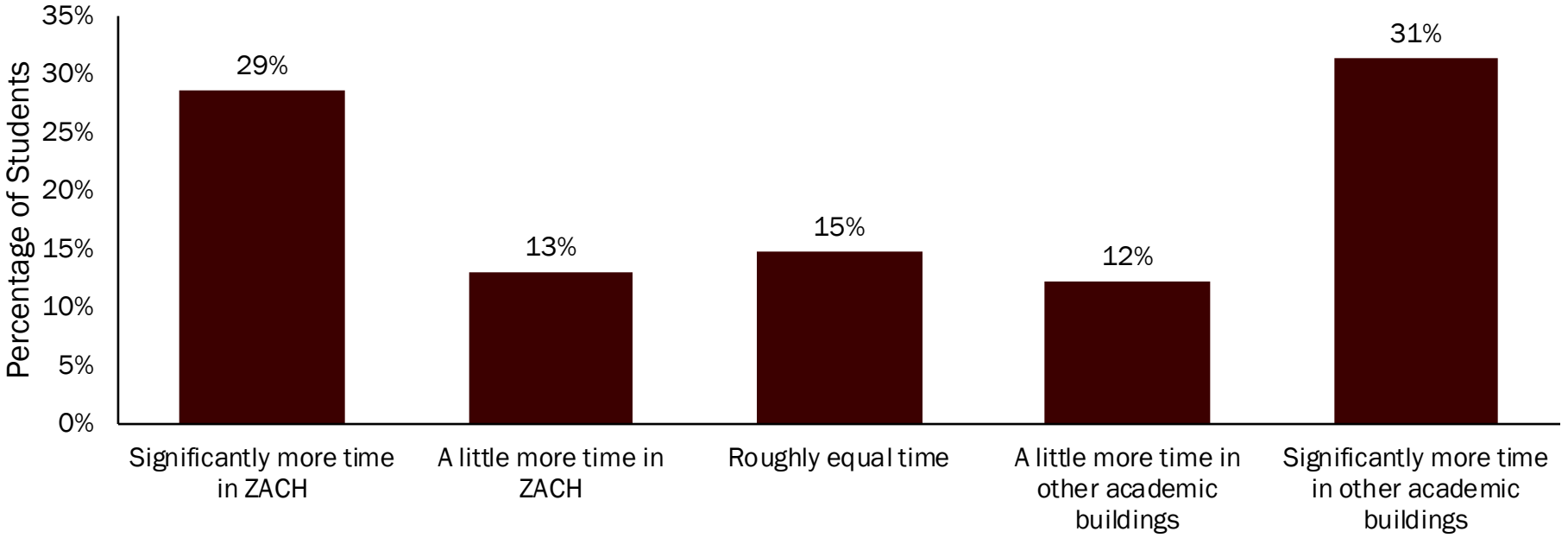
Responses: 3732

Do you, on average, spend more time studying on campus or off-campus?



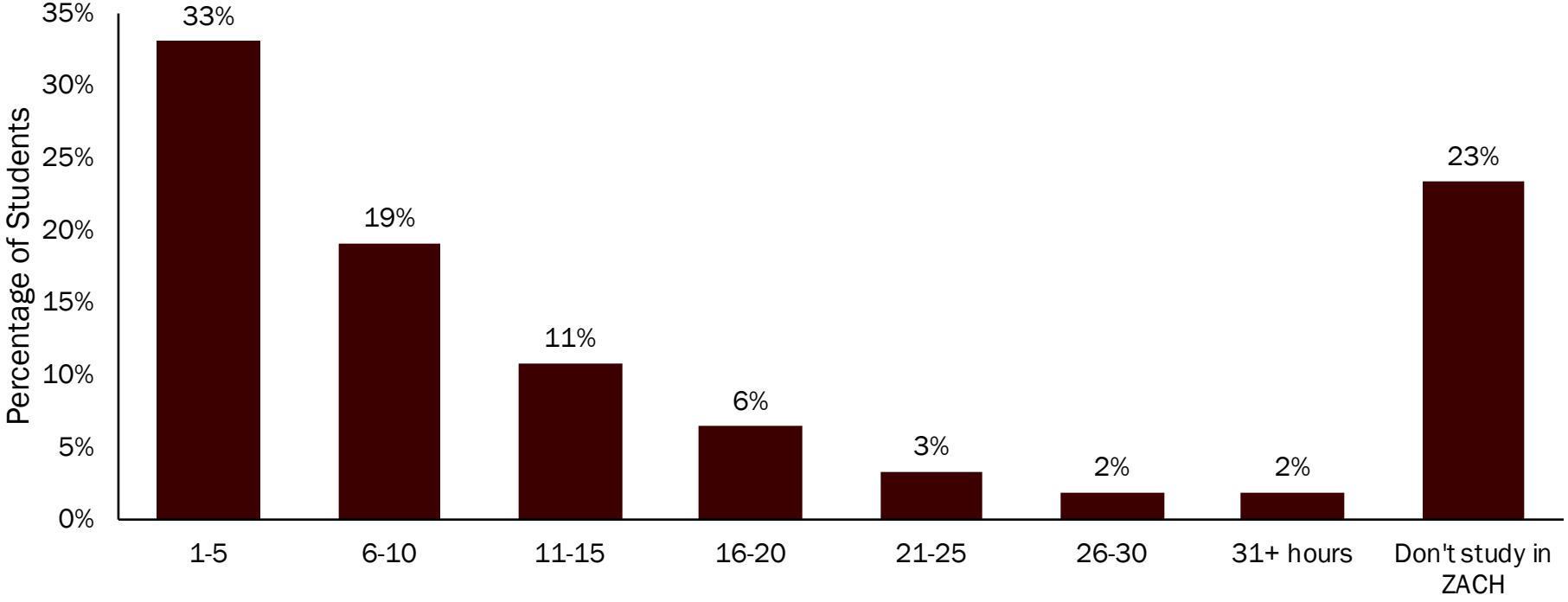
Responses: 3732

When studying on campus, do you spend more time studying in ZACH or other academic buildings?



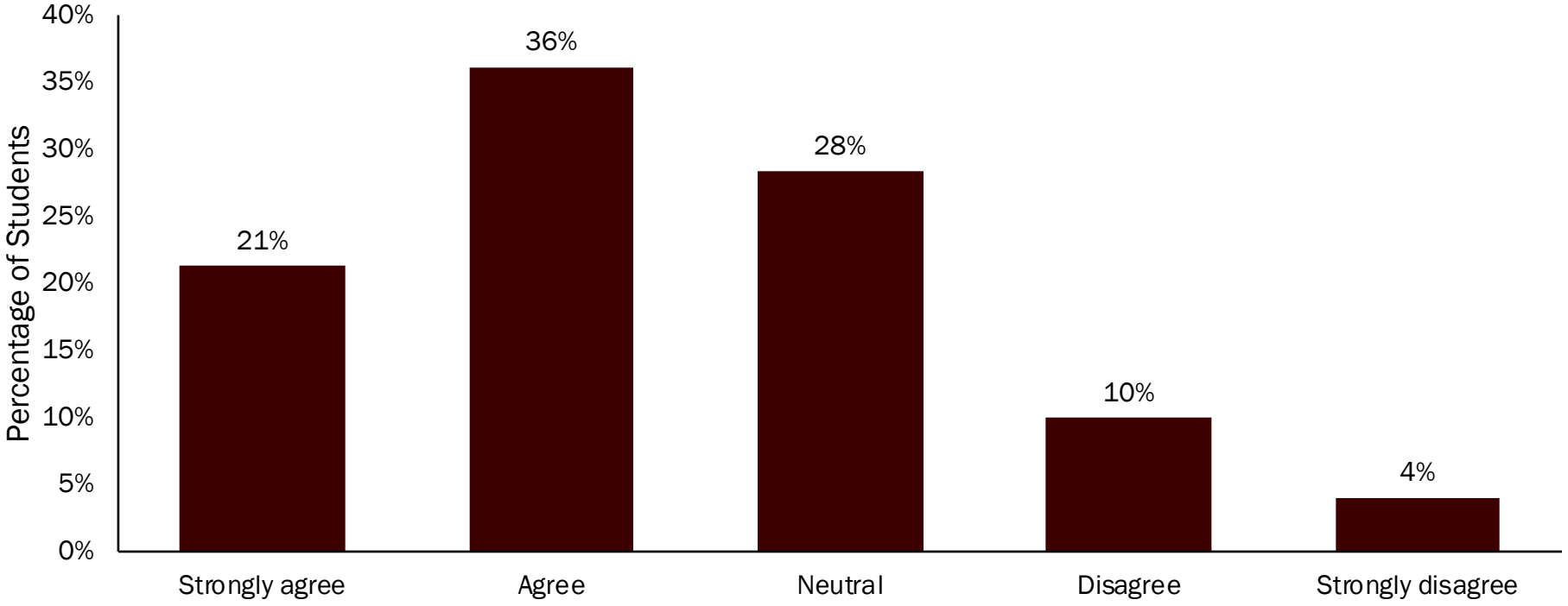
Responses: 3732

Approximately how many hours per week do you study in ZACH?



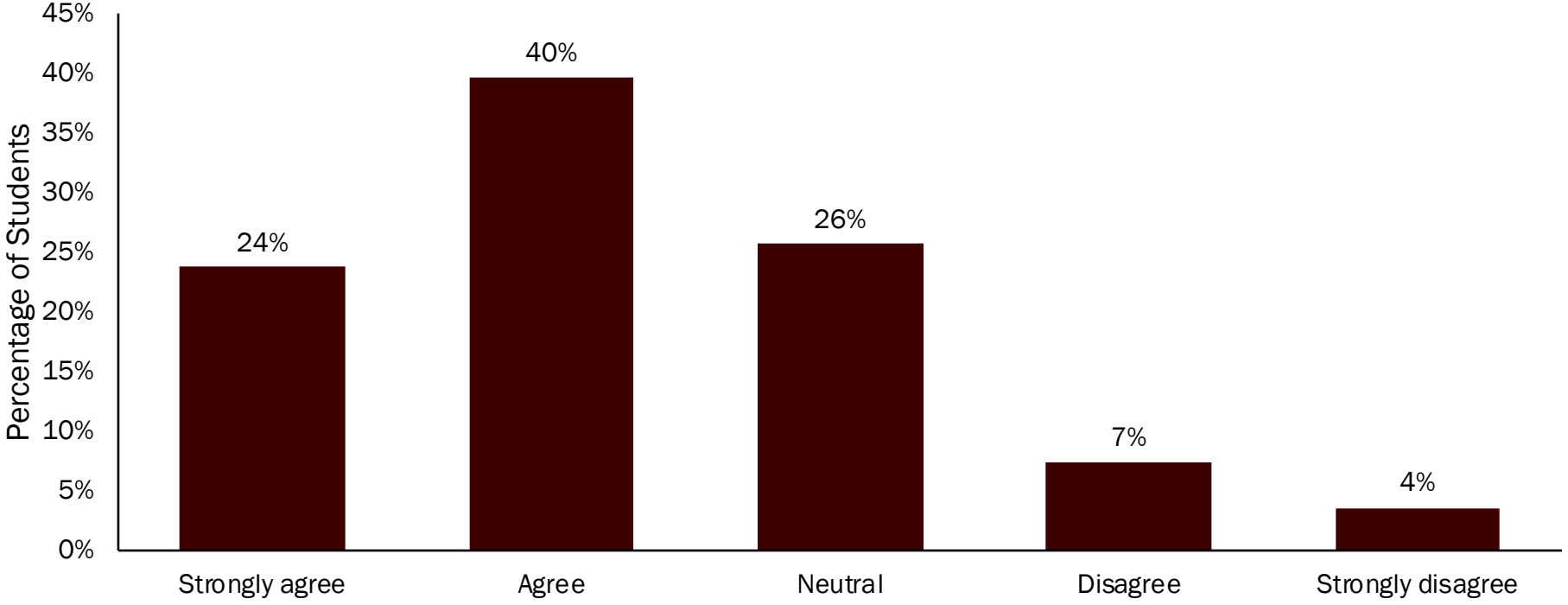
Responses: 3722

ZACH has allowed me to meet and interact with more engineering students.



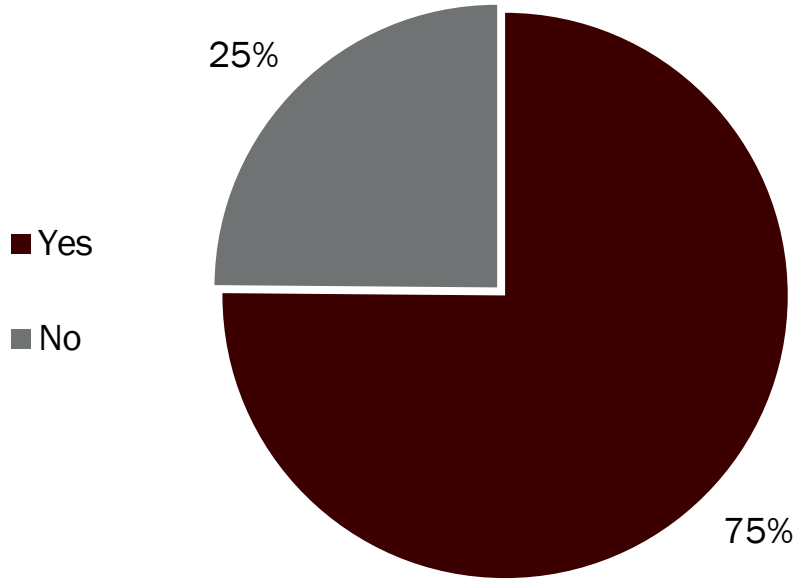
Responses: 3722

ZACH has created more opportunities to collaborate with other students.



Responses: 3720

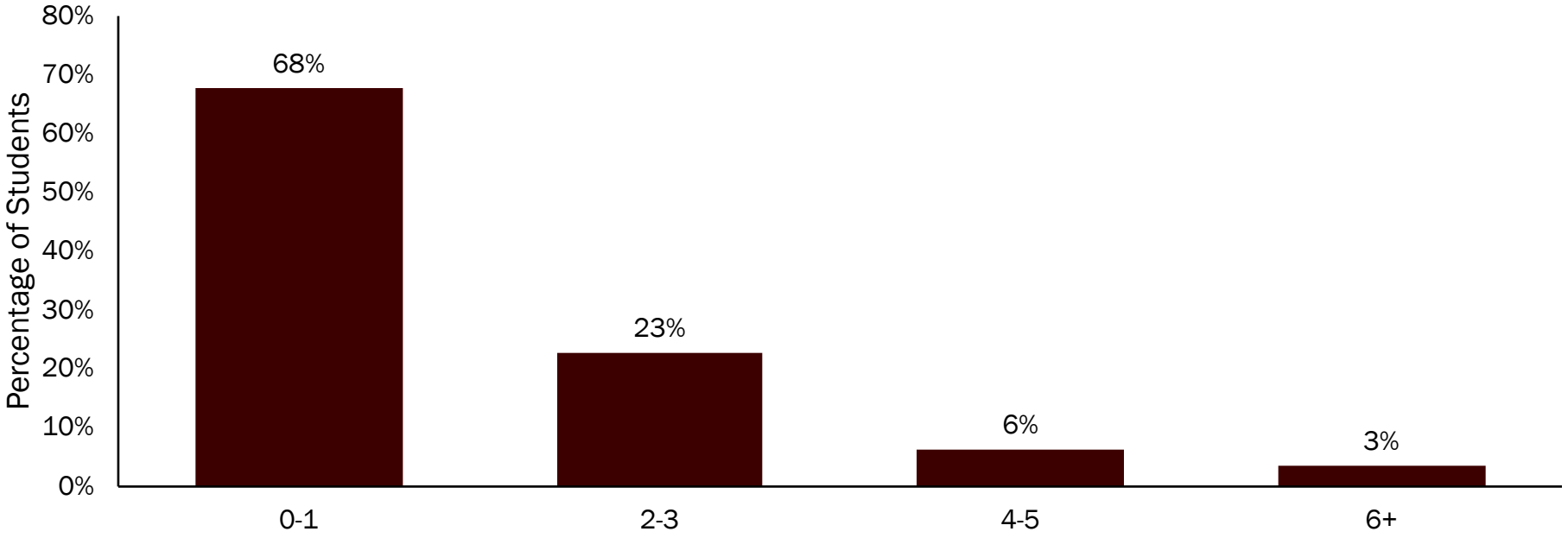
Do you know how to reserve a room in ZACH?



Asked to students who know how to reserve study rooms in ZACH
Responses: 2787

ENGINEERING
TEXAS A&M UNIVERSITY

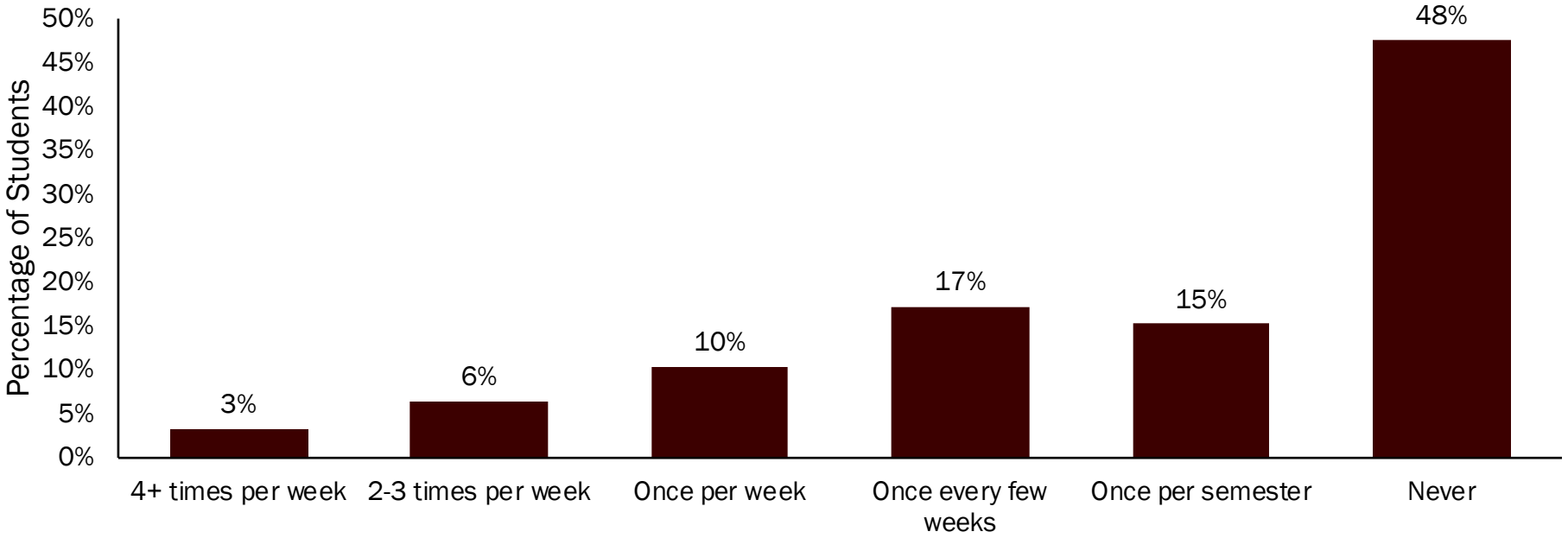
Approximately how many times per week do you utilize the ZACH study rooms?



Asked to students who know how to reserve study rooms in ZACH
Responses: 2787

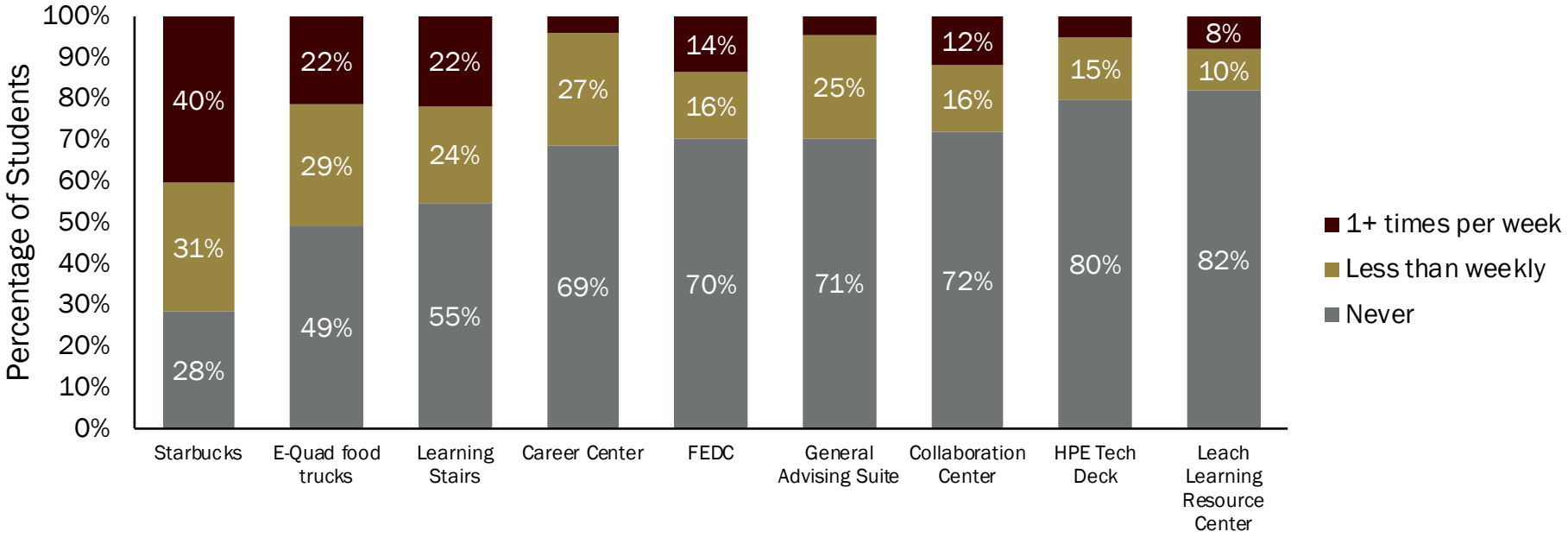
ENGINEERING
TEXAS A&M UNIVERSITY

Which of the following best describes how often you use the MirrorOp feature in the ZACH study rooms?



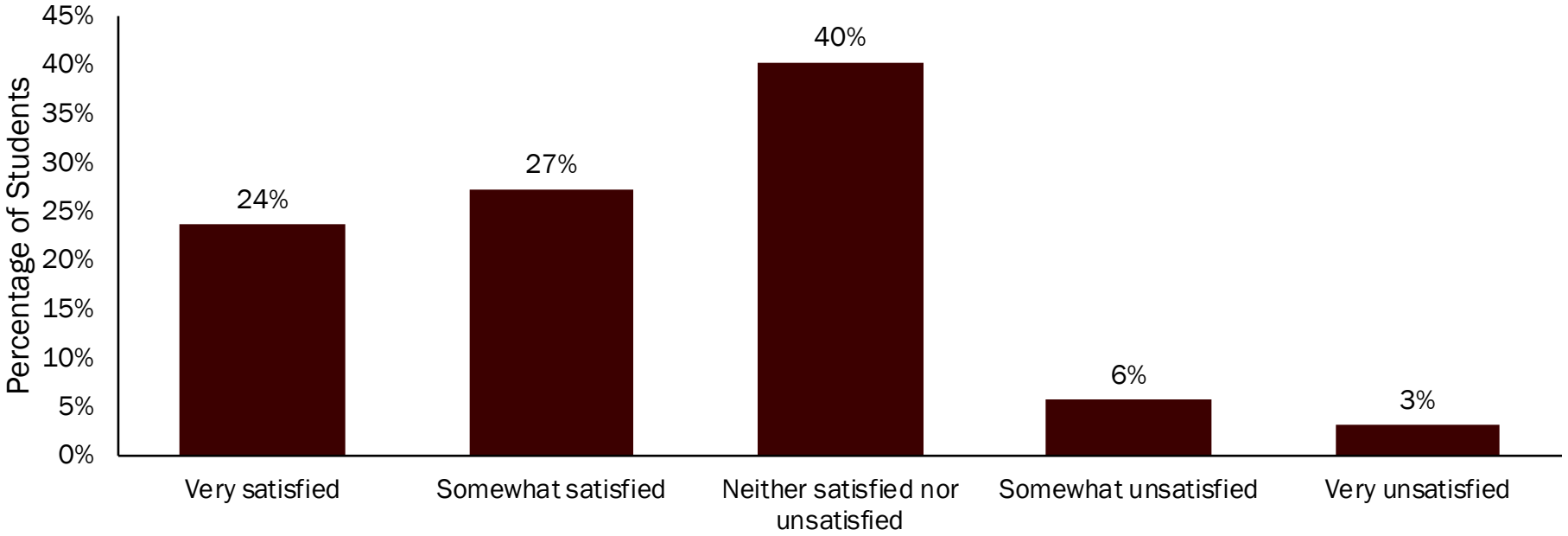
Responses: 3706

Which of the following best described how often you use the following amenities in ZACH?



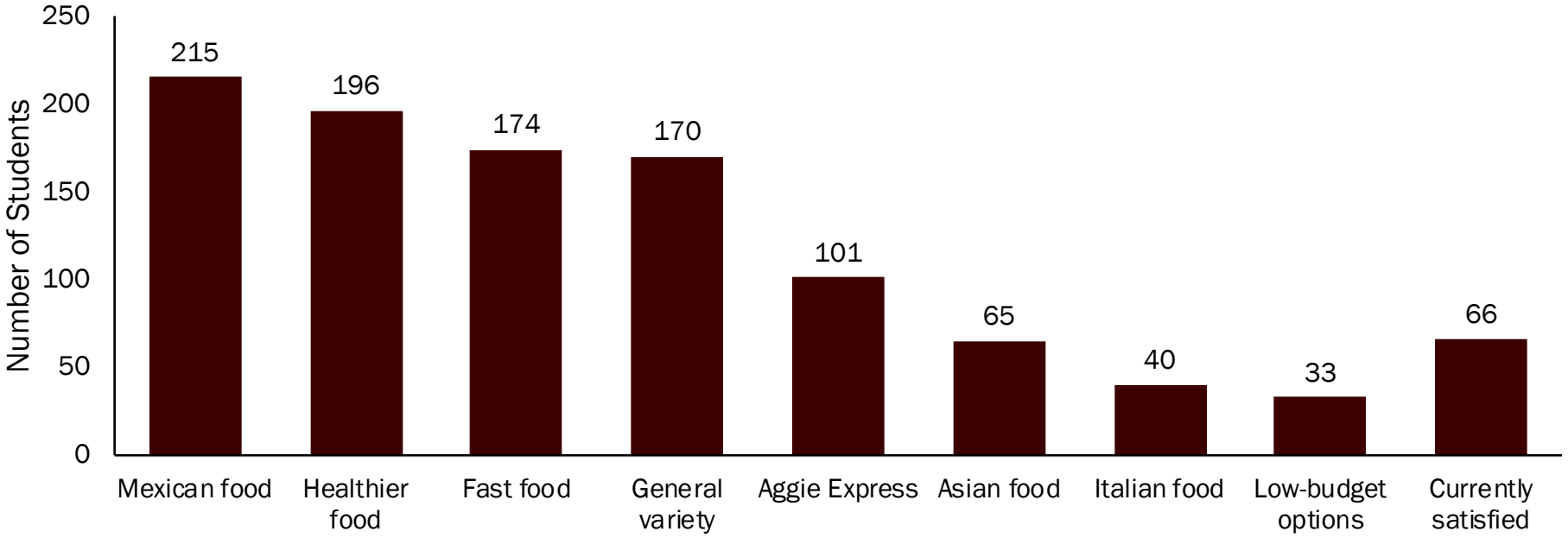
Responses: 3562

Please rate your satisfaction with the E-Quad food trucks and the variety of food offered.



Responses: 1146

Open-Ended: What other food options would you like to see offered in/around ZACH?



Responses: 1146

Open-Ended: What other food options would you like to see offered ZACH?

Healthier food options

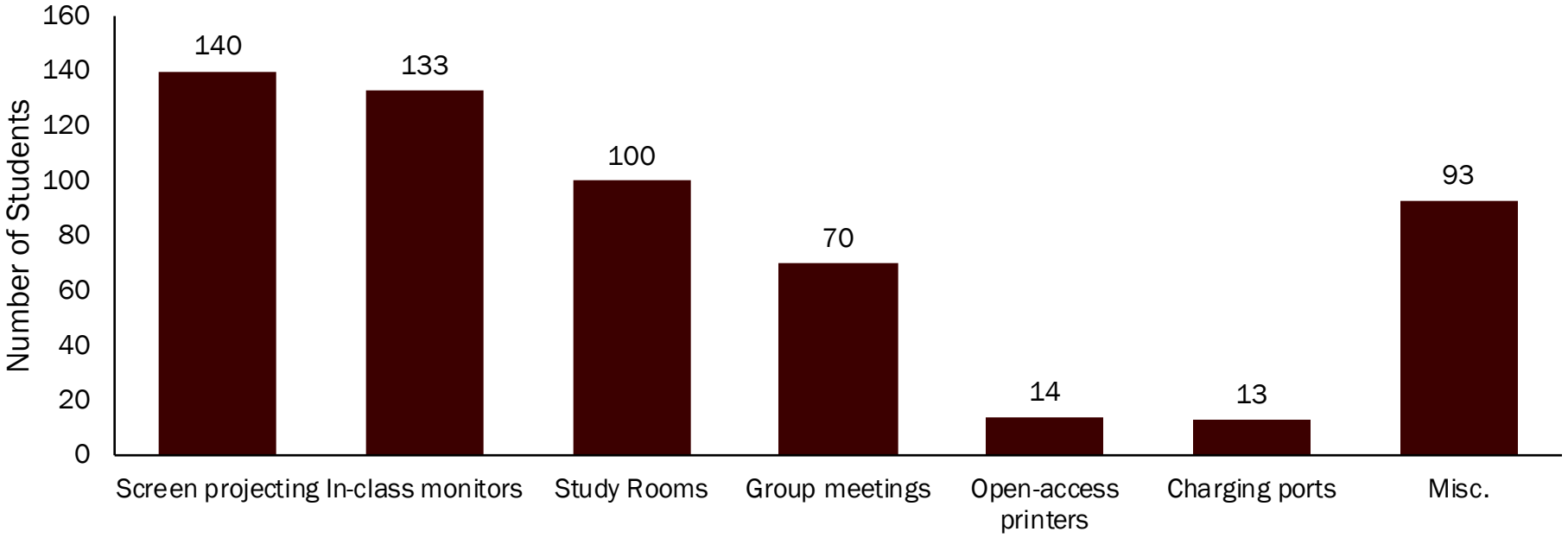
- "I like the food trucks, but I would like to see some more health-conscious options such as wraps, salads, and sandwiches."

More cost-effective/low budget options

- "There needs to be cheaper meal options. The food trucks are great, but expensive. Starbucks is great, but expensive. Potentially having an Aggie Express or somewhere you can get a more inexpensive meal would be helpful."

Responses: 563

Open-Ended: What ways are you personally utilizing instructional technology in ZACH?



Responses: 563

Open-Ended: What ways are you personally utilizing instructional technology in ZACH?

Screen Projecting

- “My engineering groupmates often utilize the monitors at the ends of the tables in our engineering class to display code and talk through it during group projects.”

Not utilizing any instructional technology

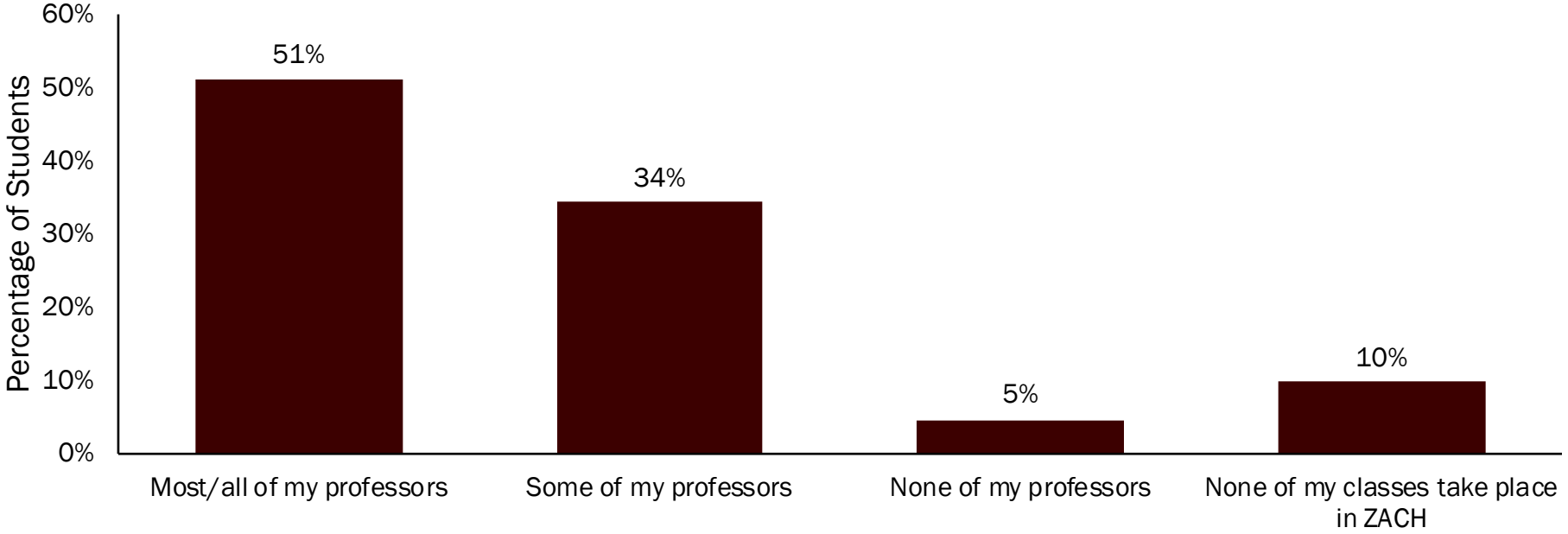
- “I don't study in ZACH at this point in my CHEN studies. The computers do not have the software I need.”

Miscellaneous

- “Sitting at tables in groups instead of individual desks has really helped me get to know the people in my classes better. This has helped me feel more connected with other people in my major. I've specifically noticed a lot more study groups being formed and a lot more people socializing together outside of class.”

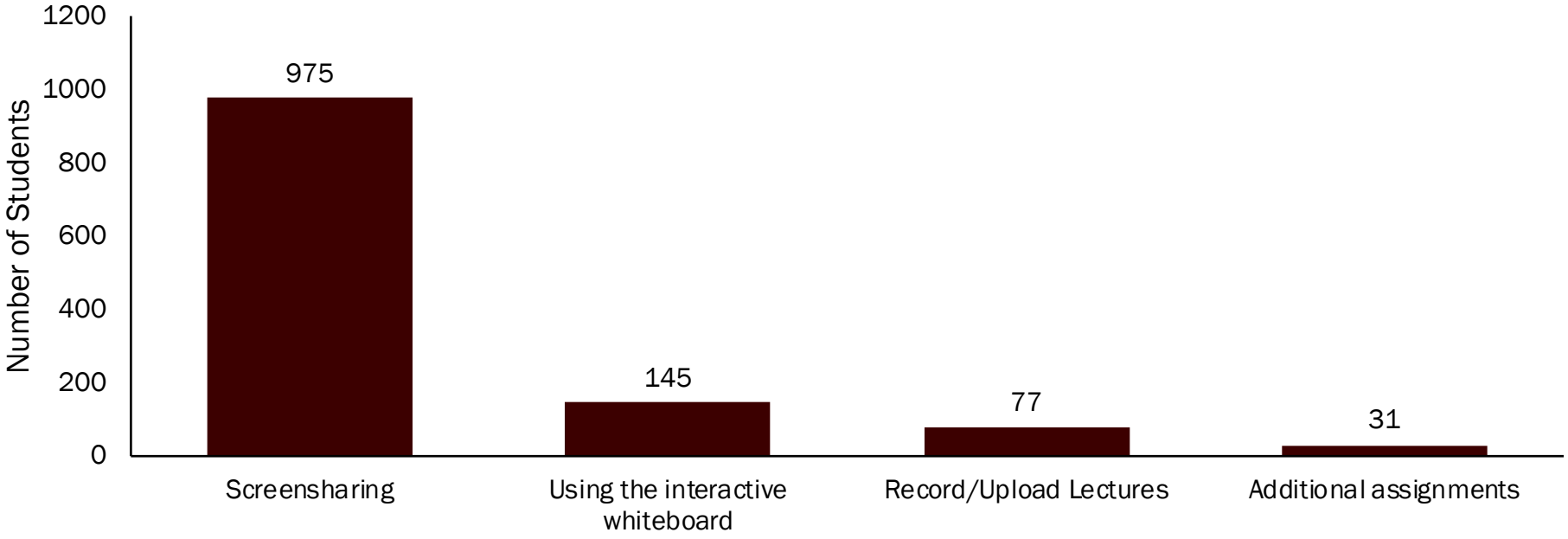
Responses: 3699

Of your courses that take place in ZACH, how many of your professors have taken advantage of the available technology to promote an active and engaging learning environment?



Responses: 1228

Open-Ended: What are specific ways that your professors take advantage of the available instructional technology in ZACH to promote an active and engaging learning environment?



Responses: 1228

***Open-Ended:* What are specific ways that your professors take advantage of the available instructional technology in ZACH to promote an active and engaging learning environment?**

Screensharing

- "They are effectively communicating through the many available screens through presentations and PowerPoints, allowing me to understand my classes better."

Using the interactive whiteboard

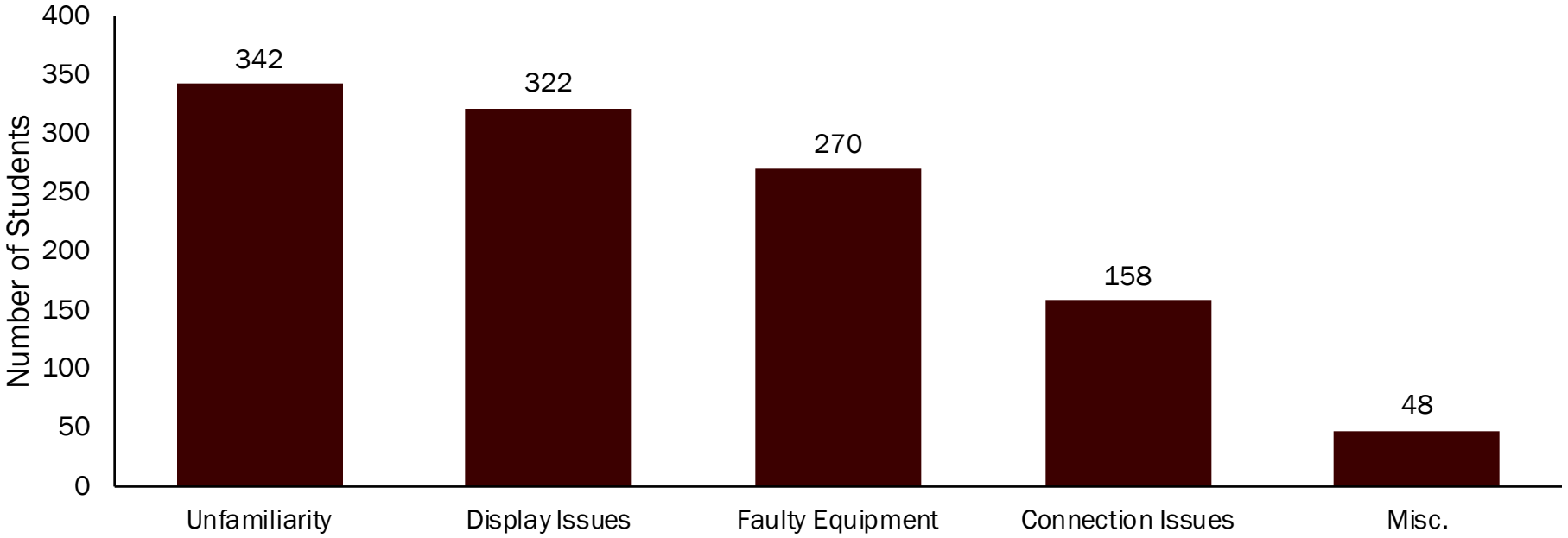
- "Going through live coding demonstrations or making notes on the powerpoints they have on the screen with the pens"

Record/Upload Lectures

- "My professor recorded his class and uploaded them to eCampus, so it is very helpful if I miss class or when I want to rewatch part of his lecture."

Responses: 1140

Open-Ended: What are specific challenges that your professors are having when dealing with the instructional technology in ZACH?



Responses: 1140

Open-Ended: What are specific challenges that your professors are having when dealing with the instructional technology in ZACH?

Unfamiliarity

- "Some professors have a hard time using the technology to their benefit… This hinders learning ability greatly for large classes."

Display Issues

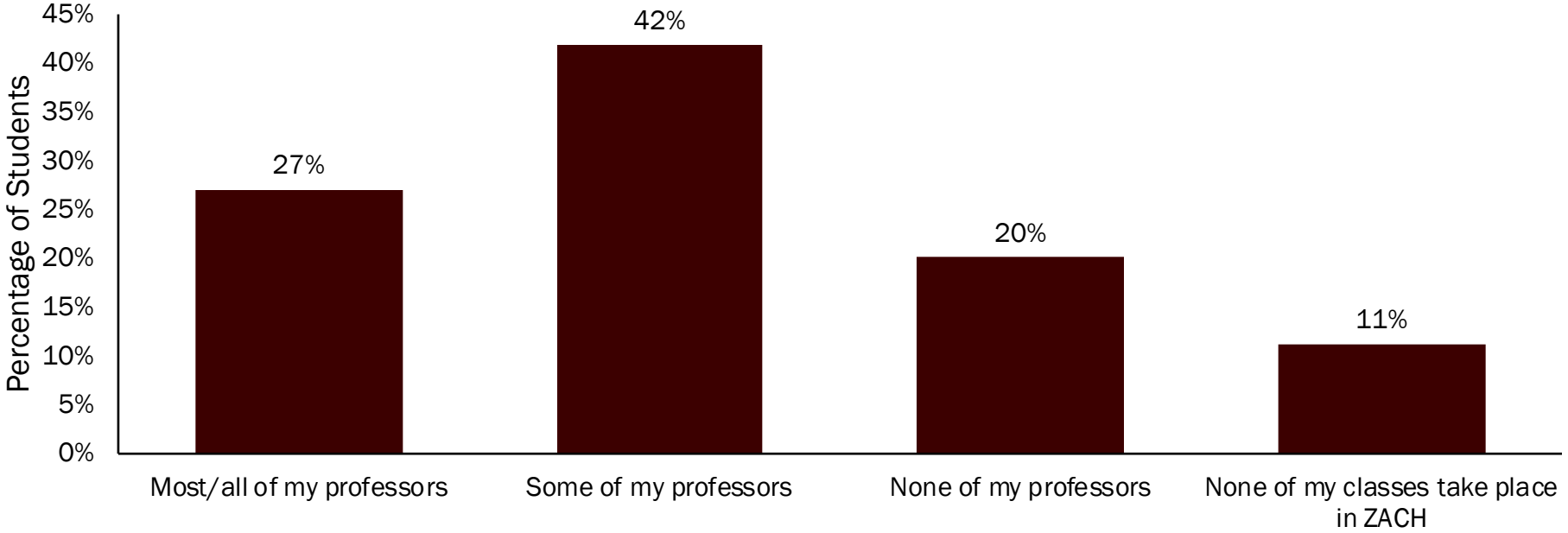
- "There have been times when the class would have to wait several minutes for the teacher to get his presentation on the monitors."

Faulty Equipment

- "The small screens at the tables have been going out every class this semester… This has made it difficult…"

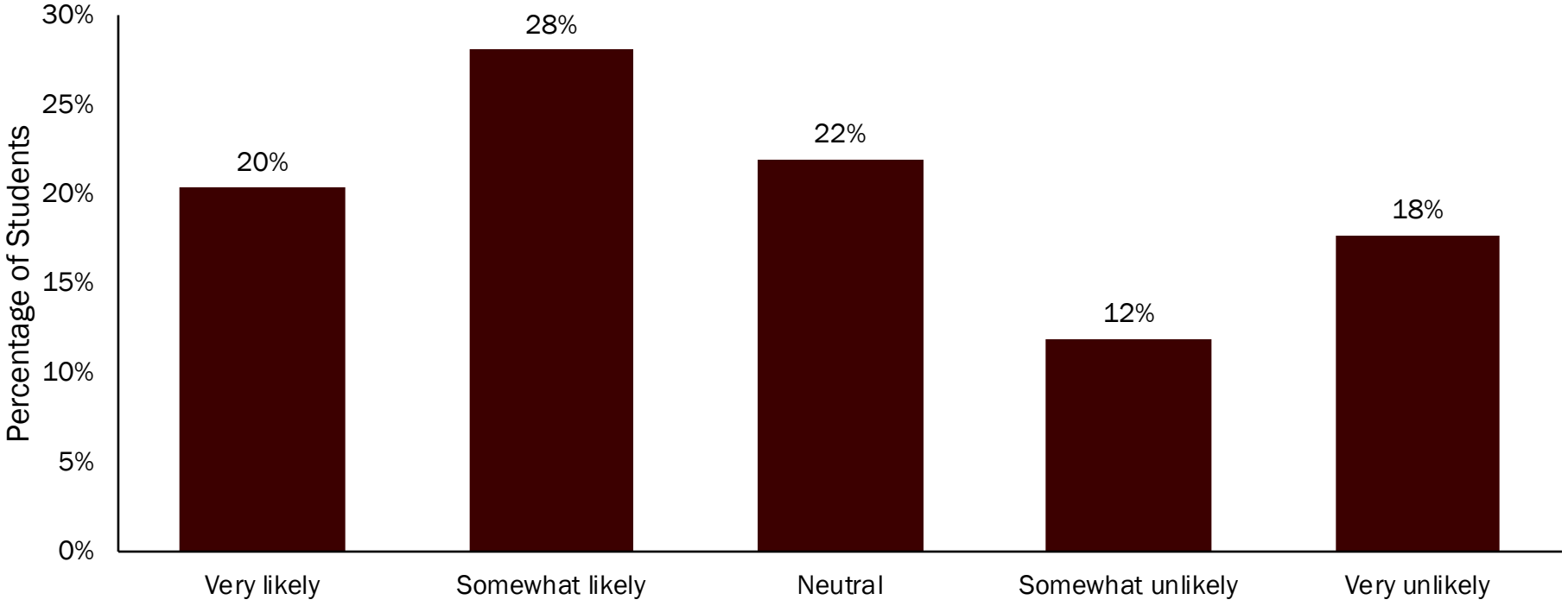
Responses: 3666

Of your courses that take place in ZACH, how many of your professors have taken advantage of the *physical space* in the learning studios to promote an active and engaging learning environment?



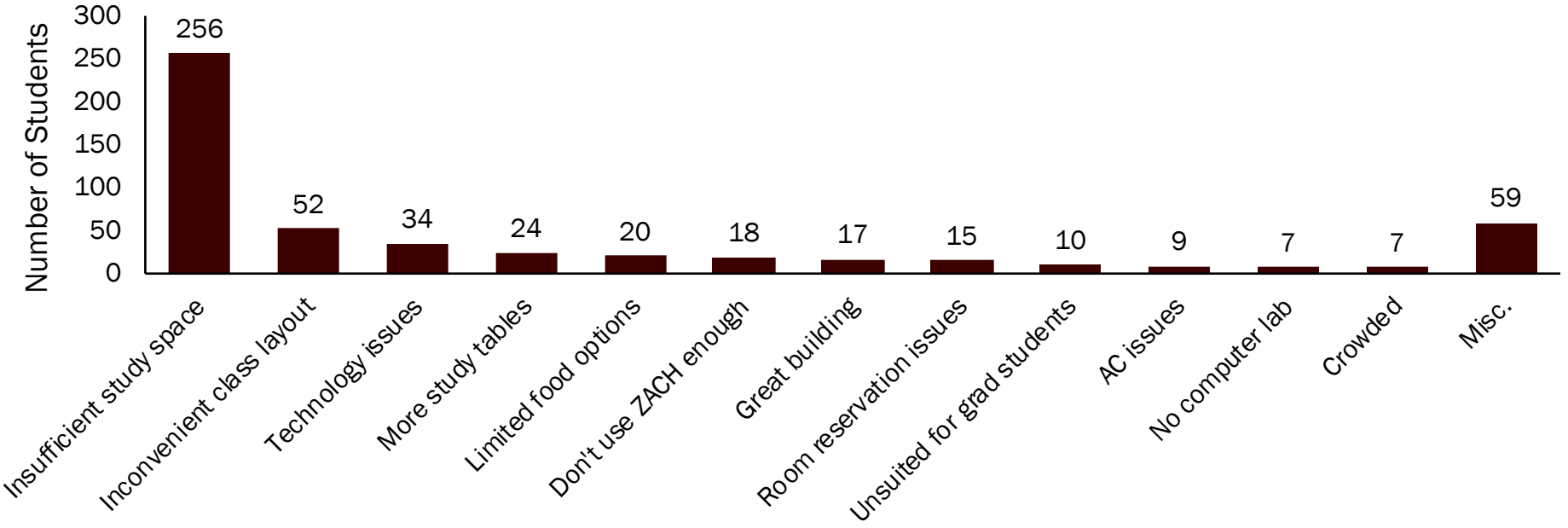
Responses: 3666

How likely are you to use ZACH learning studios after normal class hours?



Responses: 528

Open-Ended: If you have any other comments concerning ZACH, please provide those below.



Responses: 528

Open-Ended: If you have any other comments concerning ZACH, please provide those below.

Learning Studio Layout

- "Students need to see the instructor. When half the class faces the back of the classroom, no one is paying attention. Even when the professors use the monitors at each table, students trying to learn still need to see the main board to see where the professor is pointing…It's just distracting and destructive to classroom learning."

Room Reservation Issues

- "There is a lot of wide open areas but not much study space we engineers need to work. It feels like it takes more time to find an adequate spot than to actually study. The rooms are reserved, but people reserve them and don't use them so that space goes to waste."

Responses: 528

Open-Ended: If you have any other comments concerning ZACH, please provide those below.

Technology Not at Full Potential

- "Need to invest in helping the professors learn and understand how to engage their students, not invest in technology that isn't being used, because the professors often times don't know how to make their lectures more interactive. Better technology does not equal better education, better and well equipped professors equals better education."

Providing More Study Space

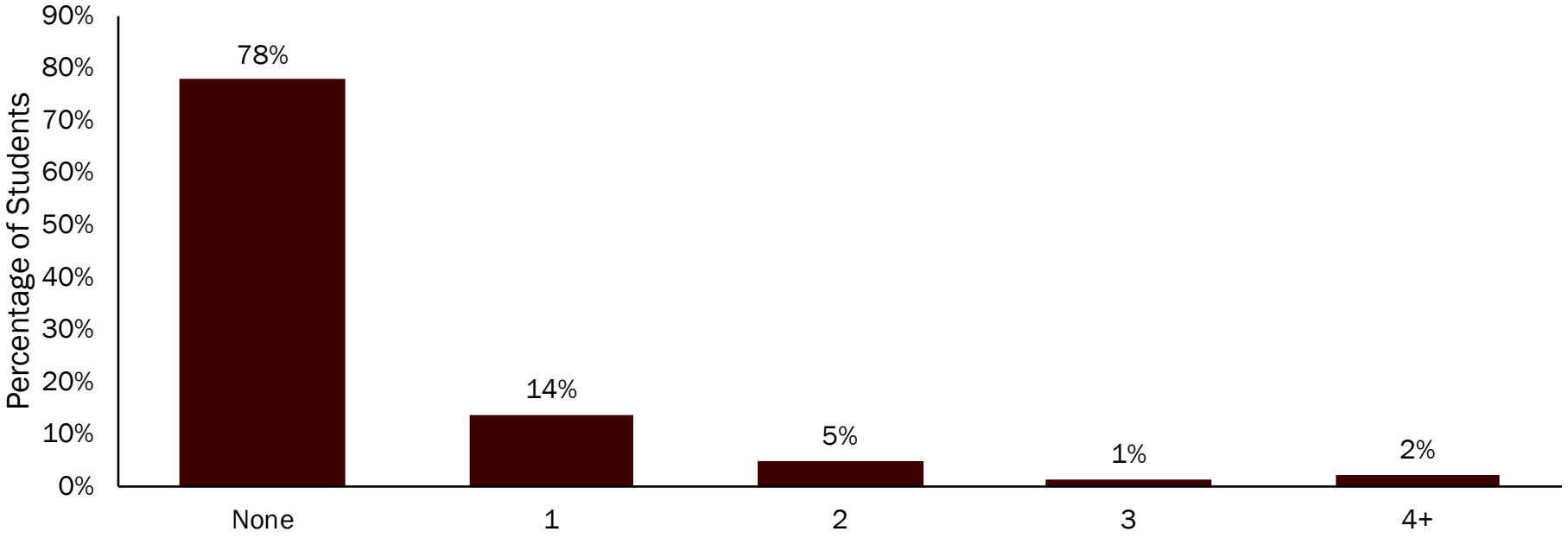
- "It's incredibly frustrating that there is not enough study spaces open and that there are big classrooms that could offer tons of study space going unused."

International Experience Questions

Asked to all students

Responses: 3664

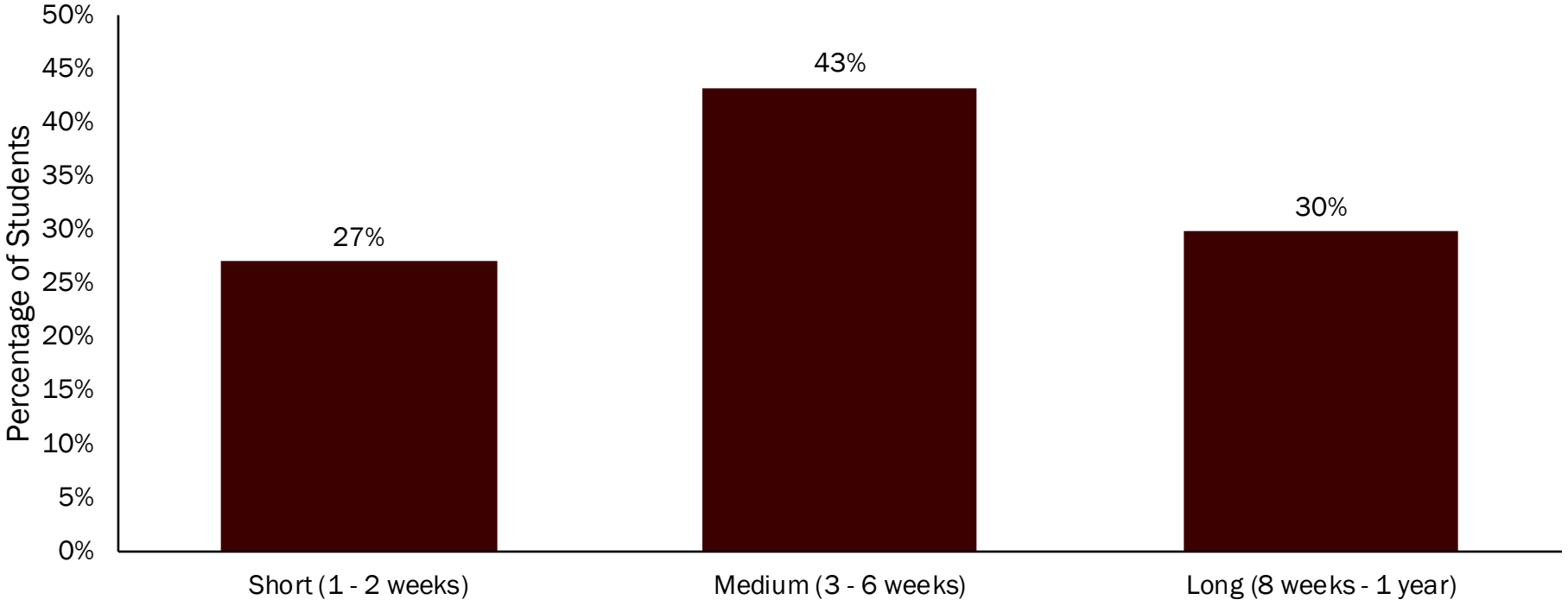
How many international experiences have you had outside of the U.S. while in college?



Asked to students who have had an international learning experience
Responses: 808

ENGINEERING
TEXAS A&M UNIVERSITY

What was the average length of your learning experience(s) abroad?



Asked to students who have had an international learning experience
Responses: 808

ENGINEERING
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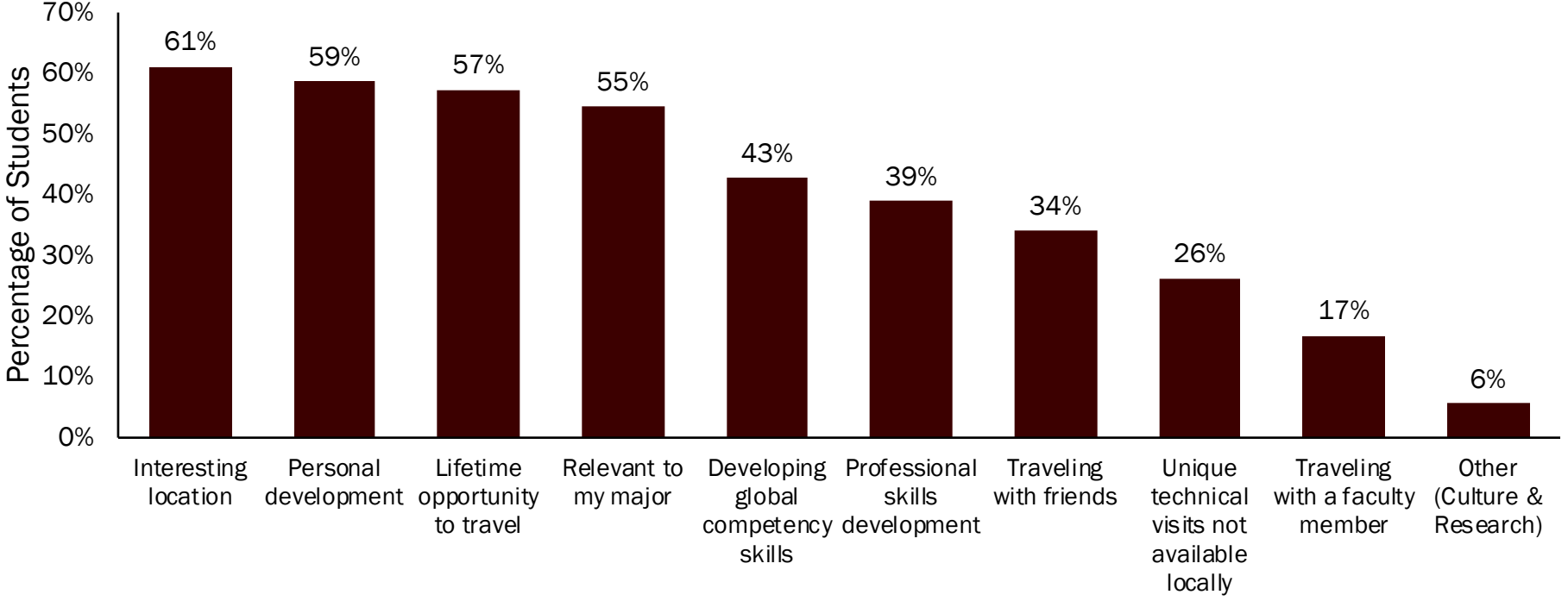
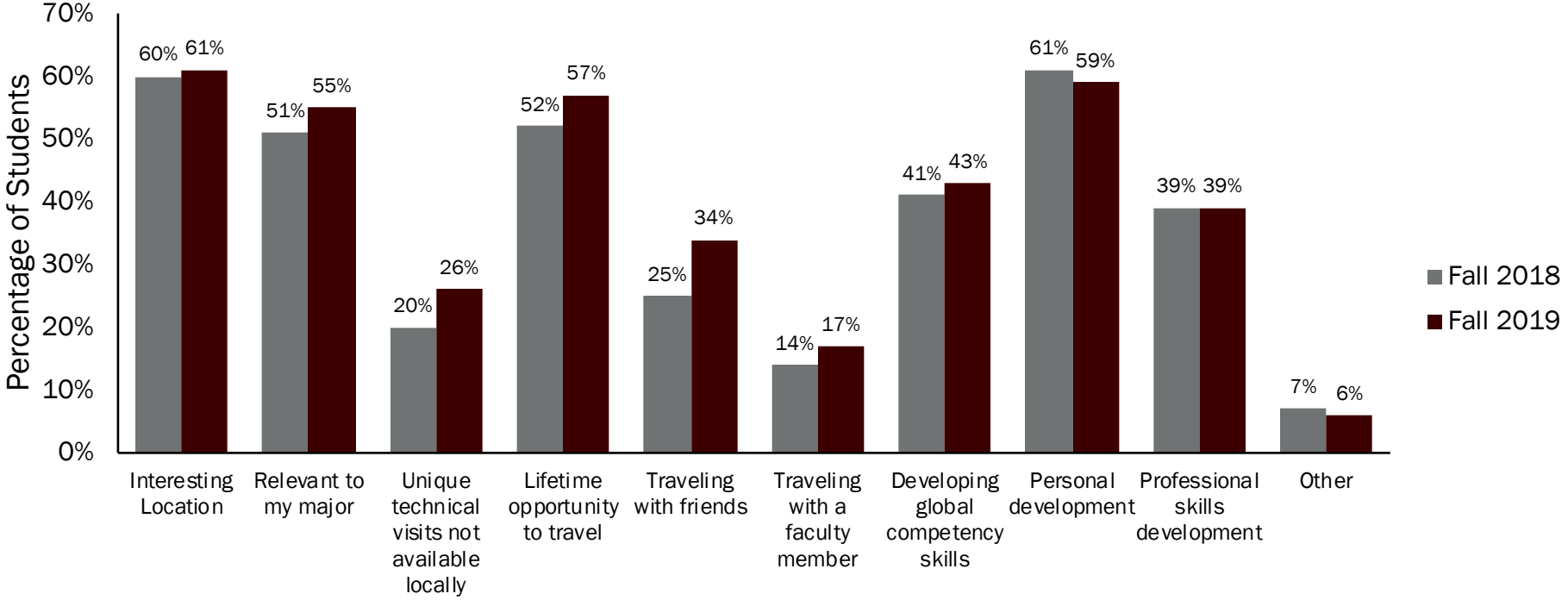
Why did you choose to participate in international learning experience(s)? (check all that apply)



ENGINEERING
TEXAS A&M UNIVERSITY

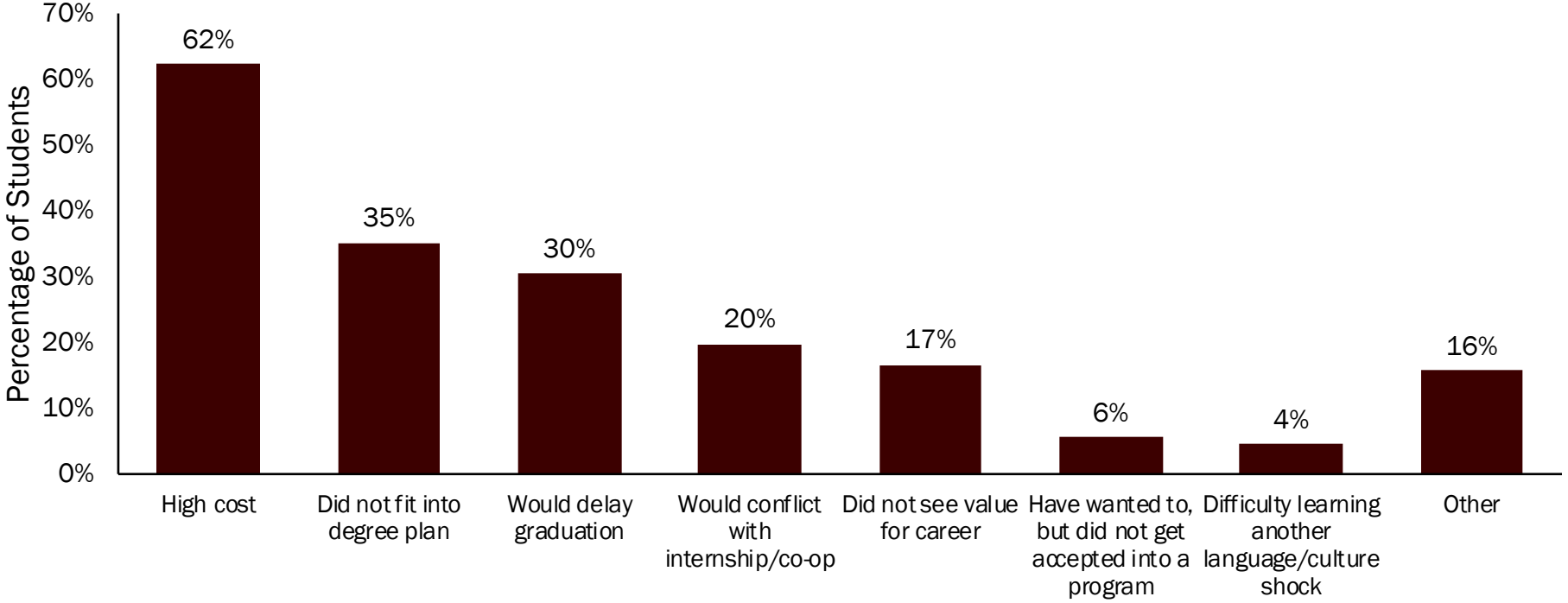
Why did you choose to participate in international learning experience(s)?



Asked to non-1st Year UG
Responses: 2119

ENGINEERING
TEXAS A&M UNIVERSITY

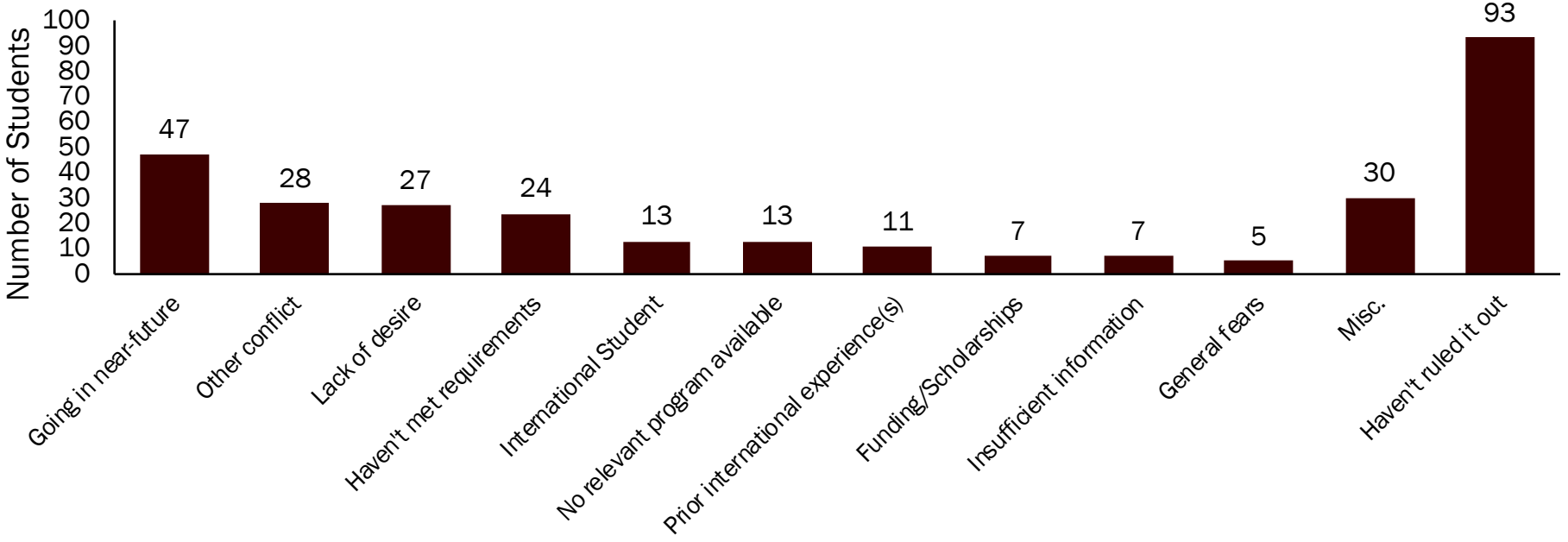
Why did you choose to not participate in international learning experience(s)? (check all that apply)



Asked to non-1st Year UG
Responses: 305

ENGINEERING
TEXAS A&M UNIVERSITY

Open-Ended: Why did you choose to not participate in international learning experience(s)? (check all that apply) – Other



Asked to non-1st Year UG
Responses: 305

ENGINEERING
TEXAS A&M UNIVERSITY

Open-Ended: Why did you choose to not participate in international learning experience(s)? (check all that apply) – Other

Haven't ruled out international learning experience(s)

- "Have never seriously pursued it, although I want to because I've heard great things."

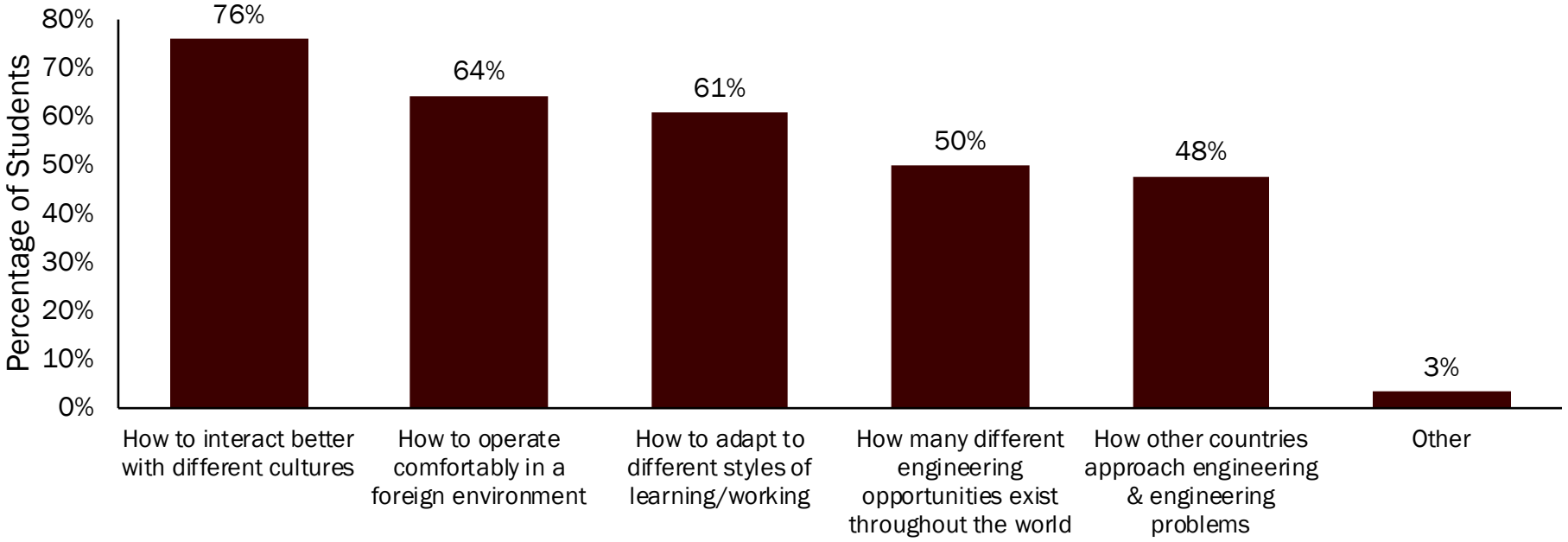
Miscellaneous

- "Always wanted to, but seemed time consuming to organize."
- "Spots fill up too fast for programs that actually help towards my graduation."
- "I want to participate, but I wish that it would cover at least 9 credits."

Asked to students who have had an international learning experience
Responses: 808

ENGINEERING
TEXAS A&M UNIVERSITY

What did you learn during your international learning experience and how will it make you a better engineer? (check all that apply)

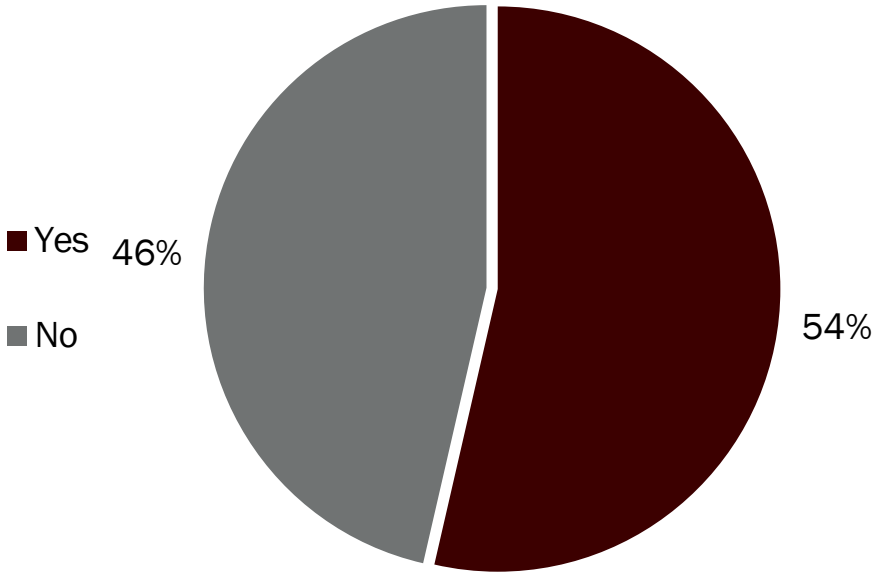


Career/Post-Graduation Questions

Asked to all students

Responses: 3655

Did you attend the Fall 2019 SEC Engineering Career Fair?



Asked to students who attended the Fall 2019 SEC CF
Responses: 1955

ENGINEERING
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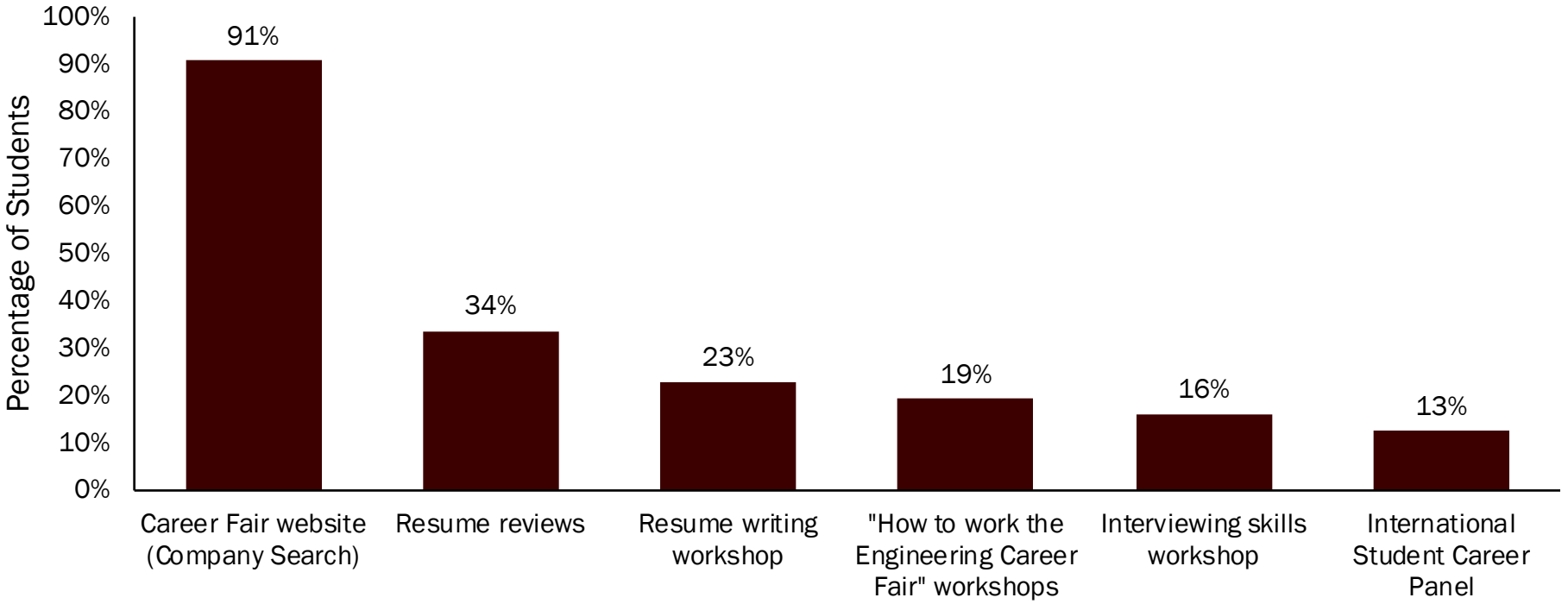
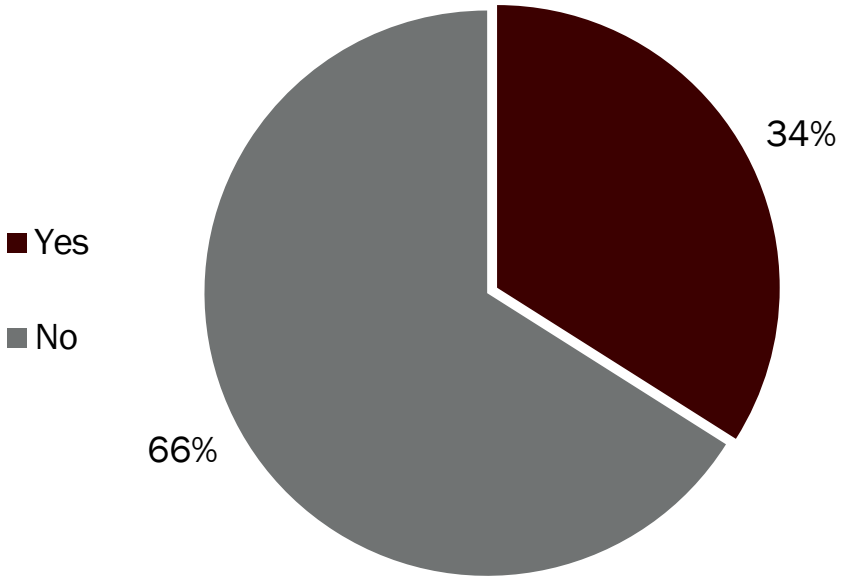
Did you use the following Career Fair resources? (check all that apply)



Responses: 3649

Have you completed an internship or co-op?



Asked to students who have completed an internship/co-op
Responses: 1239

ENGINEERING
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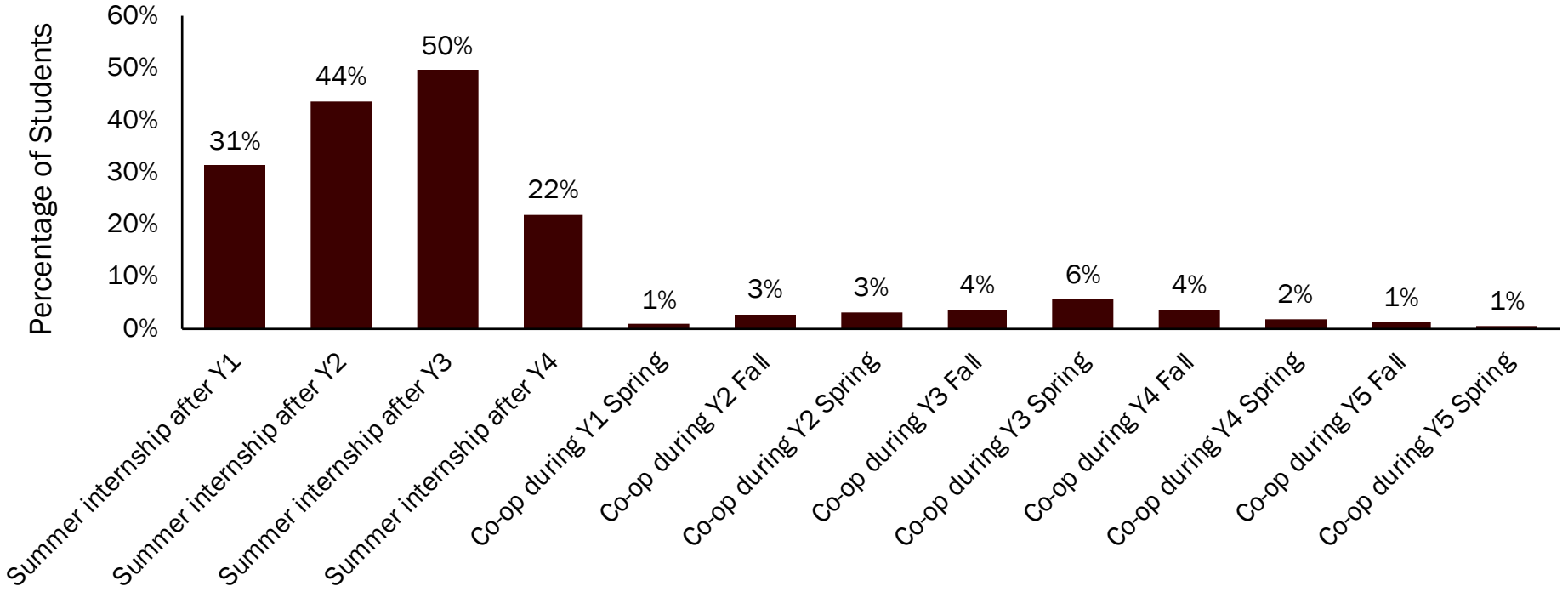
Classify your internship/co-op experience(s). (check all that apply)



Asked to students who have completed an internship/co-op
Responses: 1238

ENGINEERING
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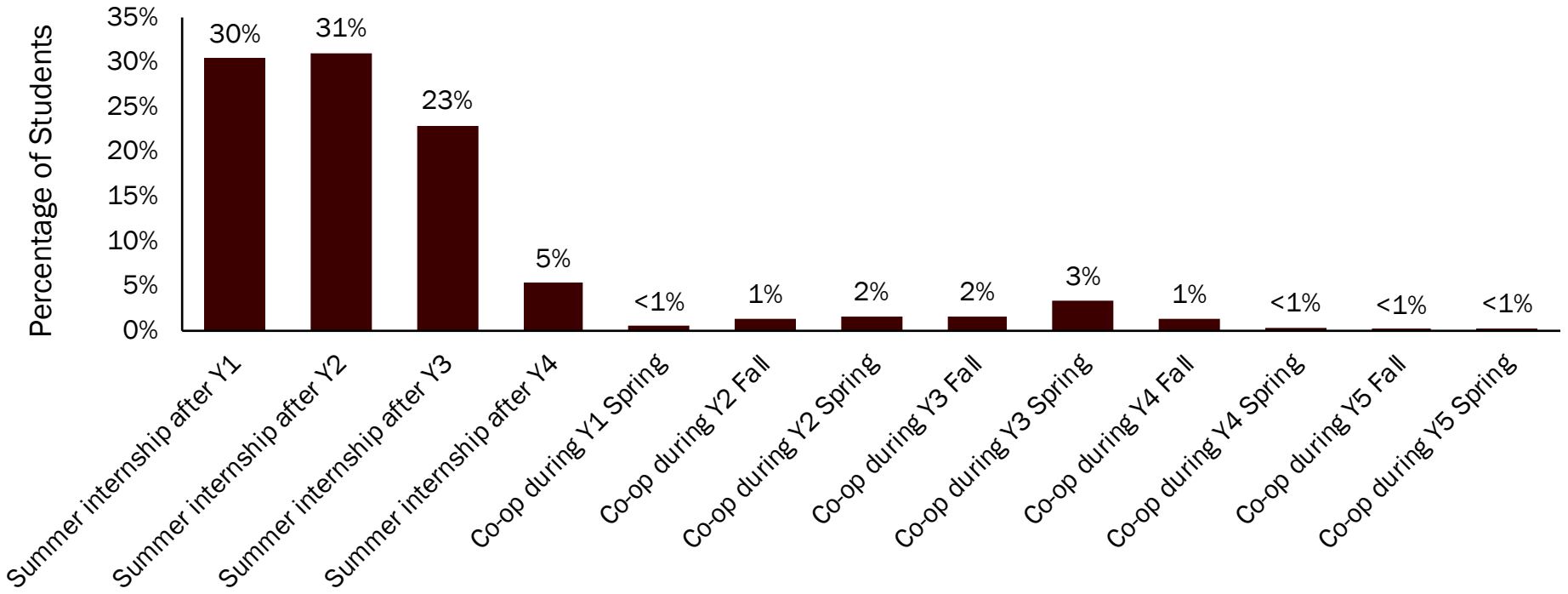
When was your *first* internship/co-op experience?



Asked to students who have completed an internship/co-op
Responses: 1238

ENGINEERING
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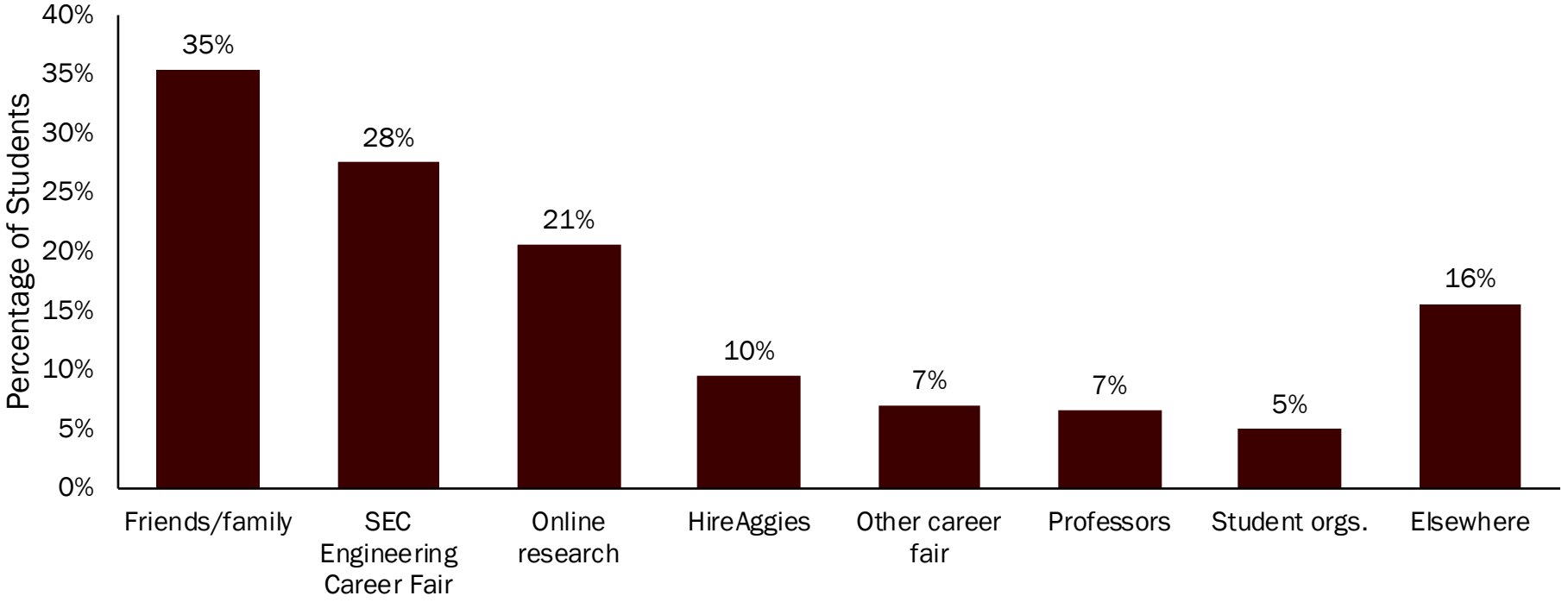
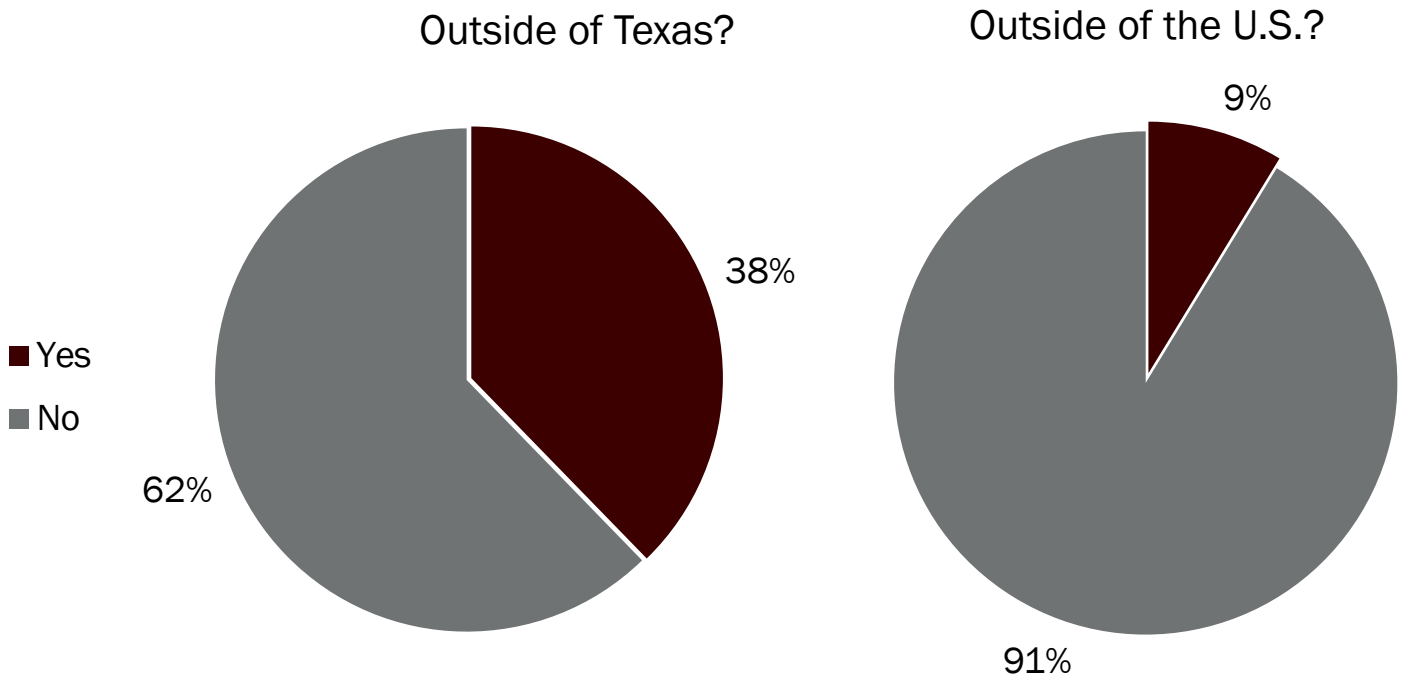
How did you obtain your internship/co-op experience(s)? (check all that apply)



Asked to students who have completed an internship/co-op
Responses: 1238

ENGINEERING
TEXAS A&M UNIVERSITY

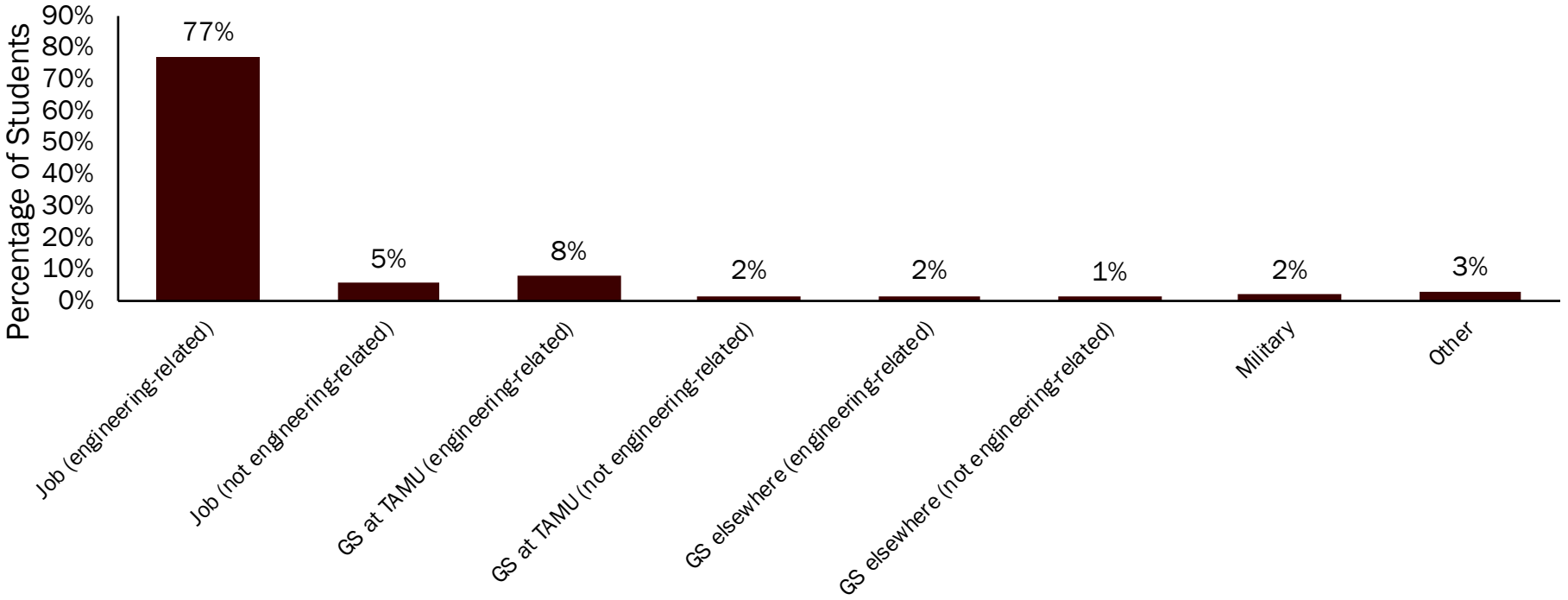
Have you completed an internship/co-op experience outside of Texas? The United States?



Asked to students graduating in December 2019/May 2020
Responses: 843

ENGINEERING
TEXAS A&M UNIVERSITY

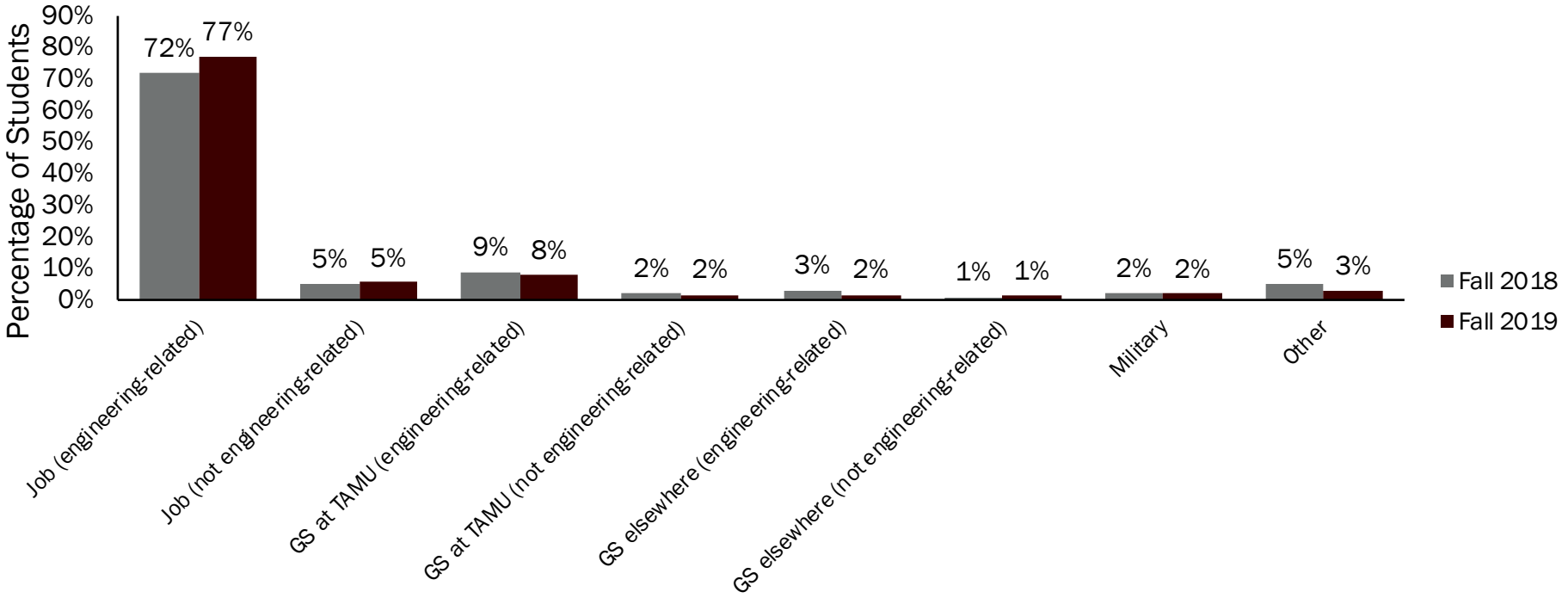
Which of the following will you pursue after you graduate?



Fall 2018 Responses: 1046
Fall 2019 Responses: 843

ENGINEERING
TEXAS A&M UNIVERSITY

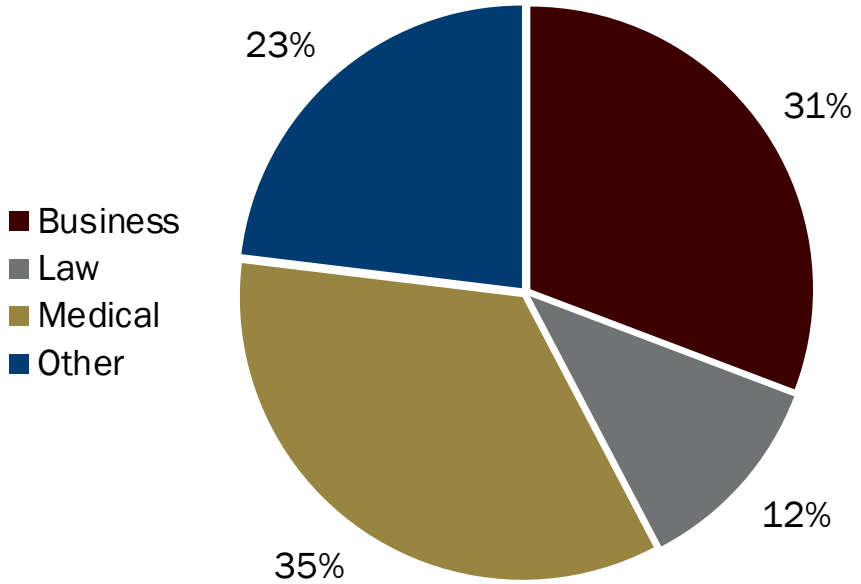
Which of the following will you pursue after you graduate?



Asked to students pursuing non-engineering graduate school
Responses: 26

ENGINEERING
TEXAS A&M UNIVERSITY

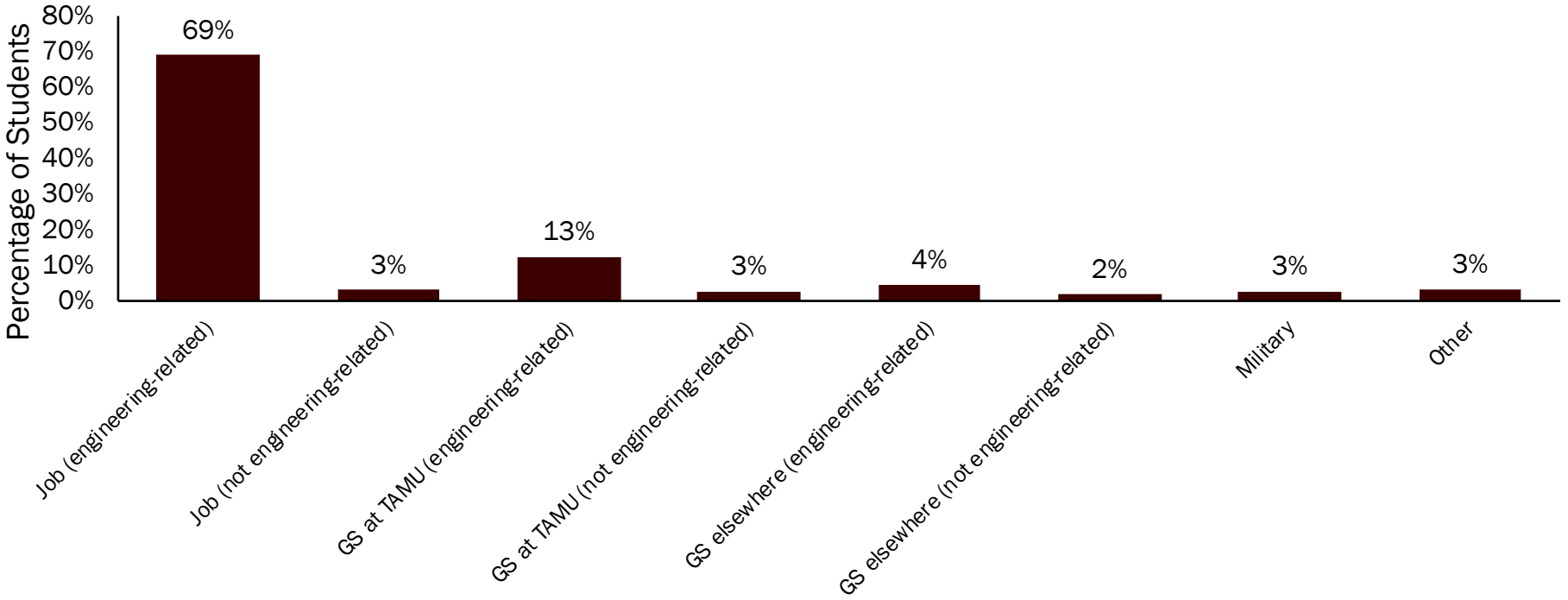
What kind of graduate school are you pursuing after you graduate?



Asked to non-graduating students
Responses: 2803

ENGINEERING
TEXAS A&M UNIVERSITY

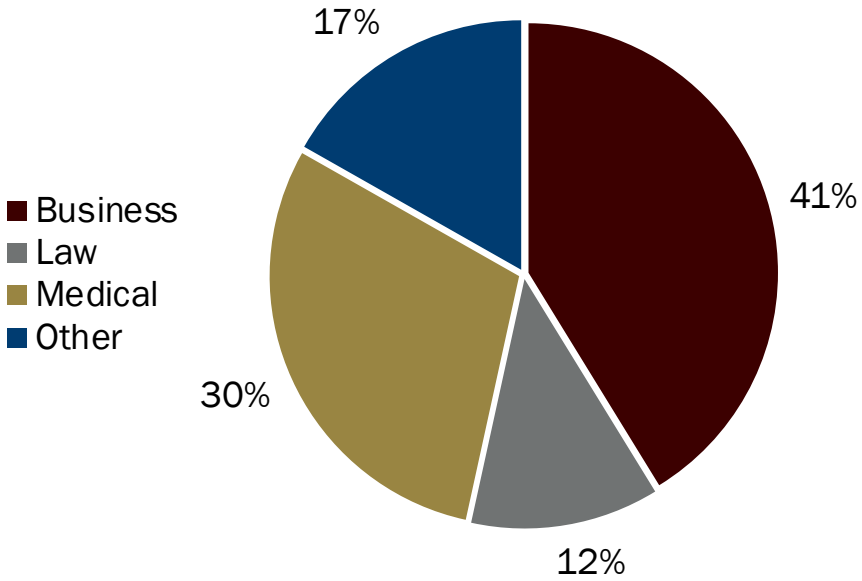
Which of the following are you planning on pursuing after you graduate?



Asked to non-graduating students
Responses: 131

ENGINEERING
TEXAS A&M UNIVERSITY

What kind of graduate school are you considering pursuing after you graduate?



ENGINEERING
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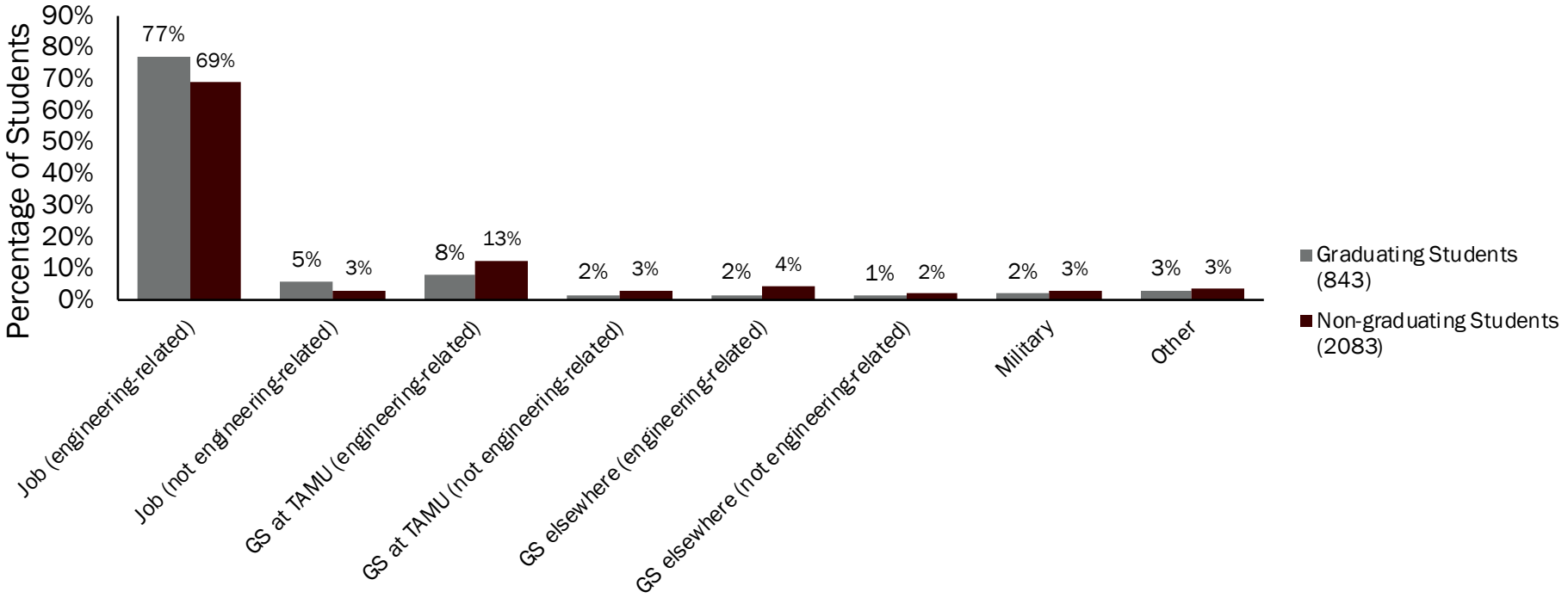
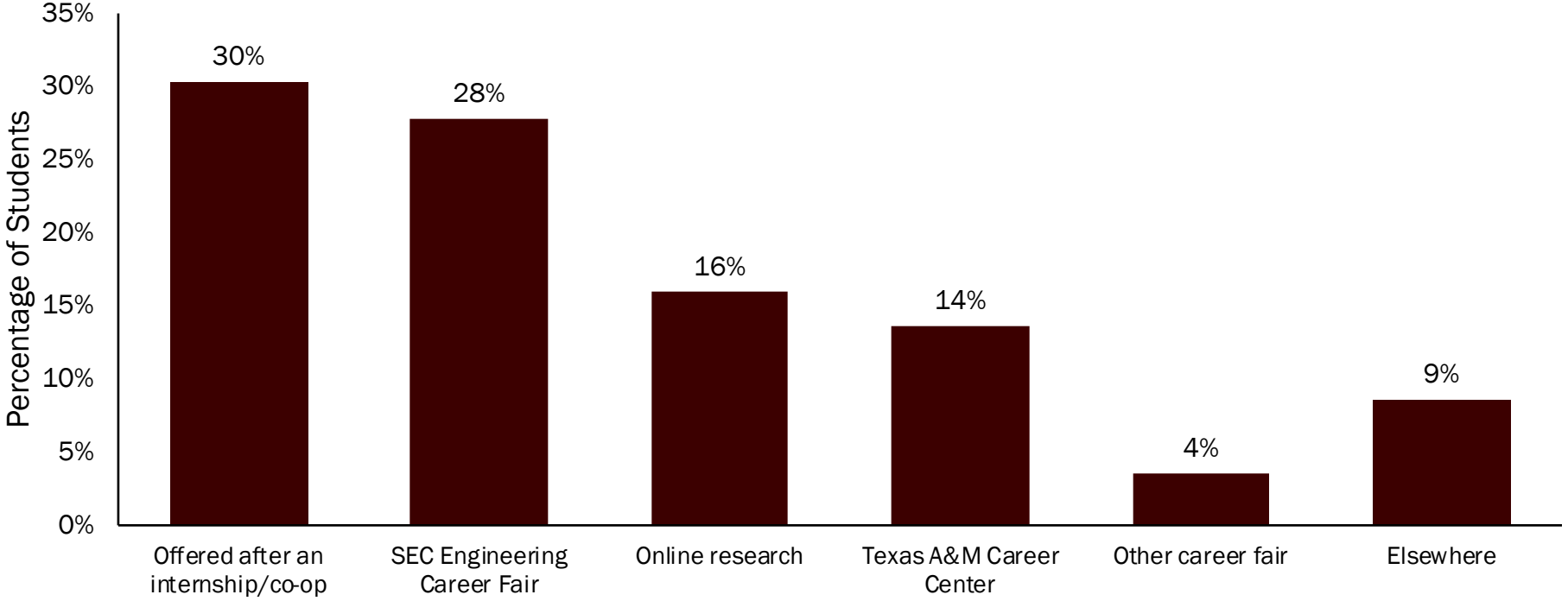
Which of the following do you plan to pursue after graduation?



Asked to graduating students pursuing a full-time job
Responses: 853

ENGINEERING
TEXAS A&M UNIVERSITY

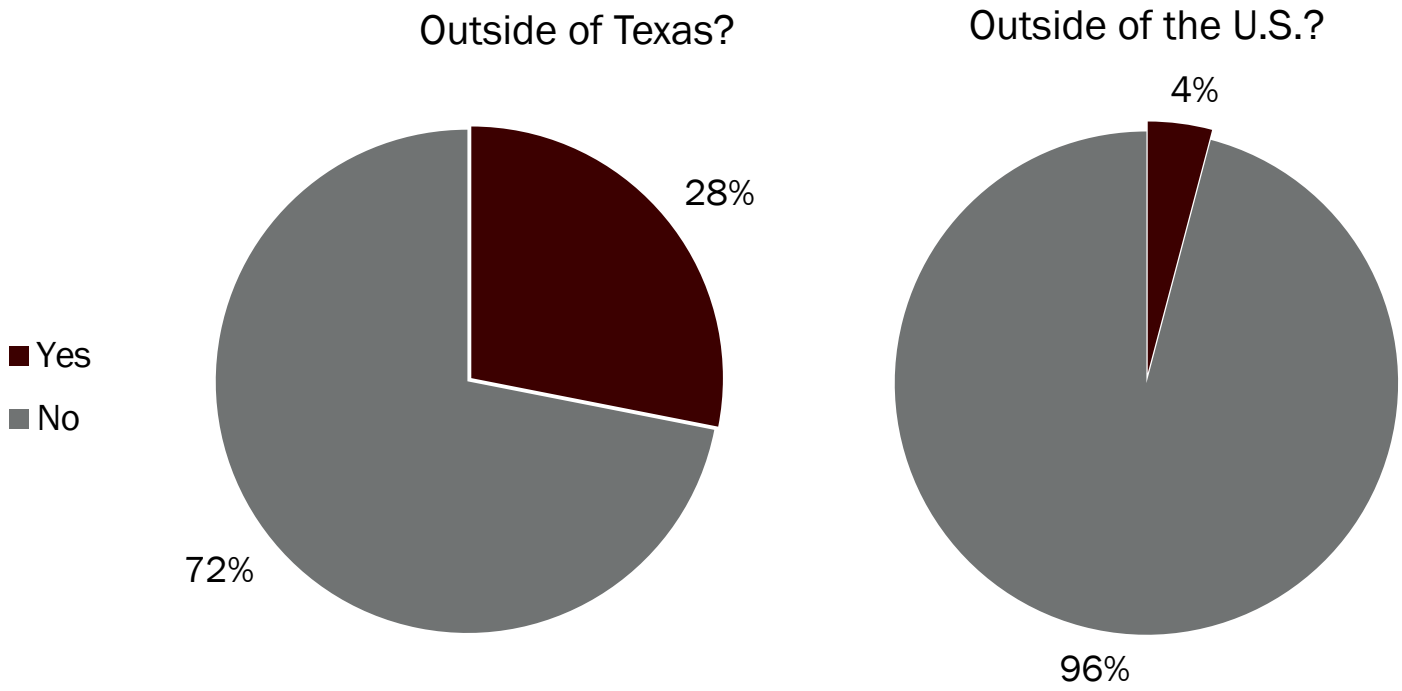
How did you obtain your full-time job opportunity?



Asked to graduating students pursuing a full-time job
Responses: 680

ENGINEERING
TEXAS A&M UNIVERSITY

Is your full-time job opportunity outside of Texas? The United States?



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Engineering Student Survey

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