



DARTMOUTH
ENGINEERING

DIVERSITY AND INCLUSION AT THAYER SCHOOL 2019-2020

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INTRODUCTION

Diversity, equity and inclusion are central to Thayer School of Engineering at Dartmouth's capacity to advance its dual mission of education and research. Broadly, our goals are to build a teaching and learning community that reflects the diversity of the global workforce, and to create a culture in which difference is valued, where each individual's identity and contributions are treated with respect, and where differences lead to a strengthened identity and learning experience for all. Our aim is to make Thayer more diverse, equitable, welcoming, and inclusive such that all members of the community feel a sense of belonging and can realize their full potential.

Diversity is reflected in the number of people from varying backgrounds, experiences, identities and perspectives, and includes but is not limited to race, ethnicity, gender identity and expression, sexual orientation, socio-economic background, veteran status, ability, age, nationality, and religious views.

EXECUTIVE SUMMARY

An Inclusive Excellence Working Group, composed of senior faculty and staff leaders, was established in Summer 2018 and has met regularly to define goals, identify opportunities and challenges, review best practices, and advance priorities related to diversity, equity and inclusion. Recognizing the need for more formal student input and engagement, the working group was expanded in Winter 2020 with the appointment of four students.

Five objectives were identified by the Inclusive Excellence Working Group, those being to:

- I. Recruit, develop and retain a diverse faculty
- II. Recruit and support a diverse student body in each of Thayer's academic programs
- III. Recruit, develop and retain a diverse staff
- IV. Create a welcoming and inclusive environment where individuals of all identities, backgrounds and experiences thrive, have sense of belonging, and achieve academic and professional excellence
- V. Hold ourselves accountable

Among the accomplishments of the year were the creation of two faculty leadership positions, one focused on faculty recruitment and development, and one focused on diversity, equity and inclusion. Other structural changes made include changes to the way student clubs are funded and supported.

Proactive networking to identify and attract diverse faculty candidates (plus training on implicit bias and fair hiring practices) resulted in more diverse candidate pools than in the past. At least half of the finalists invited to campus were from underrepresented groups, and a record number of offers were made to women. A new approach to faculty mentoring was piloted in 2019–20 and will continue, and a new approach to the faculty search process is being piloted in 2020–21.

A robust line up of education and training programs on topics such as implicit bias were incorporated into faculty, staff and board meetings regularly, allowing us to reach a significantly larger cross-section of the Thayer community than we have in the past. Still, we have much to learn and do, and recognize that this work needs to continue and be extended to reach students as well.

The First Year Student Enrichment Program (FYSEP) was expanded from a five-day program to a four-week summer curriculum. Additionally, facilitated study, peer mentoring, and academic community-building programs such as the Dartmouth Emerging Engineers (DEE) adapted to the virtual world seamlessly.

A series of open forums on race, identity and inclusion helped broaden this conversation at Thayer School, and reflect the community's engagement and desire to do better. This dialogue will continue, and when coupled with a climate survey to be administered this Fall, will guide Thayer School in becoming a more welcoming and inclusive place.

The following update describes our activities and progress in 2019–20 along five dimensions:

- Infrastructure
- Recruitment and access
- Community engagement
- Retention and success
- Climate and ongoing assessment

INFRASTRUCTURE

New organizational structures were created in order to operationalize and sustain diversity, equity and inclusion initiatives. These include:

- Professor Laura Ray was appointed to a newly-created Sr. Associate Dean for Faculty Development position to focus on strategic planning related to faculty growth, faculty hiring, faculty mentoring and faculty success in July 2019.
- Effective September 1, 2020, Professor Petra Benfert-Taylor assumed the newly-created Associate Dean for Diversity and Inclusion role to oversee and advance the School's existing and envisioned diversity and inclusion efforts.

- Professor Bonfert-Taylor and Associate Director of Career Services Amy Keeler completed the Campus Culture and Climate Initiative (C3I) Ambassador training program, and have since led training modules at multiple faculty and staff meetings. Their ability to do this builds our capacity to educate the Thayer community on an ongoing basis.
- Staff resources were identified to provide part-time administrative support to the student clubs serving women, international and BIPOC students. Program Coordinator Jessica Kinzie will assist with logistics for conferences and events and requests for funding support, in addition to K-12 outreach.
- Annual funding for student groups was formalized so they may sponsor activities and participate in professional development opportunities. These funds will support student travel to conferences (SWE, SHPE, NSBE, AISES, Grace Cooper) and club discretionary expenses. Since programs are expected to be virtual in 2020–21, more students will be able to participate.

RECRUITMENT AND ACCESS

Thayer School’s faculty, student and staff recruitment processes are being modified to help us meet the diversity and inclusion needs of the school. We will track the impact of these changes, and adjust our practices accordingly.

Faculty recruitment

- A standing ‘open search’ was established in order to allow us to respond to hiring opportunities and the need for spousal hires.
- The list of publications aimed at women and BIPOC candidates we advertise positions in was expanded.
- A list of targeted contacts was developed through colleagues and online sources (websites, postdoctoral fellow lists at top 20 universities), and used to build diverse candidate pools. Selected search committee members were offered one-week of salary during Summer 2019 and Summer 2020 for this additional effort.

Faculty search process

- All faculty serving on search committees attended training programs on fair hiring practices and implicit bias; training for 2020–21 search committee members was held in September 2020.
- Finalists for the Energy search had a confidential meeting with the Assistant Provost for Faculty Recruitment, a nonvoting member of the faculty. We plan to make this a part of all searches in 2020–21.
- The possibility of having an equity advisor (or bias referee) as part of the search process was explored. Dartmouth does not have the capacity to do this at present, so Professor Petra Benfert-Taylor -- as Associate Dean for Diversity and Inclusion -- will assume this role for 2020-21.

Faculty outcomes

- Tenure-line offers were made to five women, of which one was accepted, one is pending, and three were declined. In addition, two candidates who are potential spousal hires (one male, one female) are in progress.
- A new recruiting strategy will be piloted in 2020–21. Instead of running several discipline/field/area-specific searches, we will run a single, open-rank search for multiple positions across Thayer’s six research areas. By expanding the scope of the search we will leverage the School’s growth plans to actively seek and attract more diverse candidates. Candidates will be evaluated through online, area-specific mini-seminars and Q+A sessions as opposed to a single telephone interview, and finalists will be invited for on-site interviews as travel permits.

Student recruitment and access

- In recent years, graduate student or staff representatives have attended national engineering graduate school fairs, including NSBE, SHPE and SWE. This past year we attended the SWE and SHPE conferences only, as NSBE was postponed. In addition, Thayer materials are provided to the Guarini recruiter for the AISES, SACNAS and ABRCMS fairs. Thayer staff followed-up with prospective students who visited the Dartmouth booth with a four-part email campaign. Waivers for admissions application fees will be offered to prospective students met at these conferences beginning in Fall 2020. Students who have been funded to participate in these conferences in the past have requested that they not be required to staff the recruiting booth moving forward. We will work to identify faculty or staff who can participate as virtual representatives in 2020–21.

- Additional scholarship funds and meal plans for BE students with the highest need were identified in Fall 2019.
- Beginning in 2020, an extra term of funding was offered to admitted BIPOC PhD students in order to improve yield.
- Thayer will work with Guarini in 2020–21 to further leverage the ASURE program and Dartmouth’s membership in GEM (to include email marketing to GEM students). We are also considering hosting a webinar on the PhD Innovation Program in order to reach a diverse set of prospective students.
- Over 10% of matriculating graduate students in Fall 2020 are expected to be BIPOC. These numbers will be confirmed after the start of the term, as some students’ plans are still in flux given COVID-19 and visa issues.

Staff recruitment

- We continue to look for opportunities to diversify the staff, including expanding the region in which we advertise open positions in order to build more diverse candidate pools. As of Fall 2019, Thayer’s staff was 5% BIPOC and 10% international.

COMMUNITY ENGAGEMENT

Education, training and development for all members of the Thayer community was a key emphasis in 2019–20. While these efforts are only part of the many actions we must take, they expanded the circle of people engaged in these conversations substantially; improved our ability to work with people of various backgrounds, experiences and identities; and deepened our understanding and empathy.

- Three in-depth training sessions on implicit bias using Go Lean’s ‘50 Ways to Fight Bias’ tool were conducted in Fall 2019. Approximately 40 faculty, 60 staff, and 16 board members participated. Thayer was the first organization at Dartmouth to pilot this program, customized for Thayer and facilitated by C3I. Bias training will continue in 2020–21, and be expanded to include student audiences.
- All members of faculty search committees and all staff managers have participated in on-site fair hiring

practices training in order to better ensure the successful building of candidate pools, and more consistent practices when reading references and interviewing candidates.

- Training modules on diversity and inclusion were incorporated into faculty meetings, including a program on ‘Class in the Classroom’ at the annual faculty retreat, a presentation by students in the Society of Hispanic Professional Engineers (SHPE) club, and — beginning in spring term and continuing in 2020–21 — modules lead by Thayer’s C3I Ambassadors. These programs were scheduled early in the agenda in order to engage as many faculty as possible, and typically included break-out room discussions followed by a full group discussion in which findings are reported. Similar training modules were added to staff meetings beginning in August 2020.
- The Dean sponsored a Town Hall meeting for students in order to start a conversation specifically about diversity and inclusion in Winter 2020.
- The Inclusive Excellence Working Group was expanded in Winter 2020 with the appointment of four student representatives: Abdul-Rashid Alhassan, Anaqhelly Cisneros, Khari-Elijah Jarrett and Steffi Muhanji.
- Efforts to identify and engage an increasingly diverse group of external partners and speakers resulted in the appointment of Ashifi Gogo to Thayer’s Board of Advisors; Samantha Truex as Chair of Thayer’s Board of Advisors, and Brenda Dietrich (The Geoffrion Family Professor of Practice at Cornell’s School of Operations Research) as the annual Visionary in Technology speaker, among others.
- Thayer’s Board of Advisors heard from invited speaker Beth Chandler, President and CEO, YW Boston, on the Power of Unconscious Bias (Fall 2019), and staff members participated in professional development programs through both Dartmouth HR (e.g. LEADS) and professional associations (e.g. National Association and Colleges and Employers).
- Through the Dartmouth Rural STEM Educator Partnership, we are working with local middle school teachers and the Montshire Museum of Science to develop STEM curriculum for low-income, rural middle schools. Professor Vicki May is a Co-PI on this five-year NIH grant <https://sites.dartmouth.edu/sepa/>.
- Thayer’s Communications team is working to highlight diversity and inclusion in an authentic way on the School’s new website and social media channels.
- A series of four open forums on race, identity and inclusion were held so the community could discuss

systemic racism, learn from one another's experiences, and — toward the later part of the series — identify steps to create a more inclusive environment at Thayer. More than 60 people attended each forum — including faculty, staff and students — and many participants reported that they learned something and were grateful for the opportunity. Special thanks to Petra Bonfert-Taylor, Teja Chatty, Amy Keeler, Steffi Muhanji, Zach Price, and Holly Wilkinson for creating these forums to listen, learn, and exchange ideas. These forums are expected to continue in 2020–21.

- Additional future work includes collaborating with the Thayer Council to: make voting more transparent; add a BE student to the Council; and host events that incorporate more diverse cultures. We will also consider ways to encourage undergraduate student clubs to welcome graduate students to their organizations.

RETENTION AND SUCCESS

Faculty

- A more formalized, ongoing faculty mentoring program for new faculty hires was implemented in 2019–20, and all new junior faculty hired on or after July 2019 now have a three-person mentoring team rather than a single mentor. New faculty are using their mentoring teams effectively, and teams are meeting at least quarterly.

Students

- First-Year Student Enrichment Program (FYSEP): Professors Vicki May and Petra Bonfert-Taylor created an engineering component as part of a four-week curriculum for 85 first-generation, underprivileged Dartmouth students. The curriculum was piloted (remotely) in August of 2020 and was successful. This expanded program, to be offered annually, includes mentoring for FYSEP students by Vicki and Petra throughout the year in addition to the four-week 'class' offered in the summer.
- Dartmouth Emerging Engineers (DEE): Students receive tutoring and mentoring from upperclass students, and advising by faculty through DEE. Virtual DEE sessions ran in Spring 2020; DEE will be enhanced in Fall 2020 by adopting Remo software.

- Other academic and community-building programs, including the Women in Science Project (WISP) and First-Year Research in Engineering Experience (FYREE), received funding and were adapted to the virtual environment.
- Through the Luce Scholars program, sophomore and junior women majoring in engineering sciences can apply for funding for research internships under the direction of a Thayer faculty member. Four new scholars began in Winter 2020 and three in Summer 2020.
- Career Services partnered with students, student groups and employers to offer programs supporting students' professional development. Programs included "How to Prepare for a Conference" and "Post-Conference and Networking Tips" (in partnership with SHPE), and "Perspectives from Thayer International Alumni," among others. Employer partners are now explicitly asked to include people from diverse backgrounds in programs for students. Alejandra Cuervo Covian and Steffi Muhanji are working with Career Services to better address the needs of international students, and to bring new programming to students with diverse backgrounds.
- A Learn about Graduate School dinner was co-sponsored with the Luce Scholars program to encourage students affiliated with SHPE, NSBE, SWE, and AISES to consider graduate school in Winter 2020. SHPE plans to offer a program on the fifth-year BE program in Fall 2020.
- The student group GRiND (Graduates in Need of Decompression) sponsored the program "Navigating the Advisor-Advisee" relationship. GRiND also added books on inclusivity to their new library at Thayer.
- We are working to make orientation programs more welcoming and inclusive, and to better meet the unique needs of international students and diverse students new to the Upper Valley. Implicit bias training will be added to graduate student orientation in Fall 2020, among other things.
- Also in 2020-21, we plan to work with Guarini and their Diversity Fellows program (Thayer PhD student Alberto Ruiz is one of the leaders and a Diversity Fellow), and with NSBE during a period of transition.

CLIMATE AND ONGOING ASSESSMENT

- Baseline metrics and goals to help us track our progress in creating a diverse and inclusive community for all were established by Thayer’s Strategic Planning Working Group, and affirmed by the School’s Inclusive Excellence Working Group in 2019–20. We will track and compare the composition of Thayer’s faculty, staff, and student body to external data in order to improve our performance against, and ultimately exceed, national and regional averages (see appendix).
- A survey of faculty activity (teaching, research, and service) was conducted in Fall 2019 to ensure equity and accountability around workload.
- The American Society for Engineering Education (ASEE) honored Thayer with a Bronze Award in the organization’s Diversity Recognition Program. In addition, Dartmouth was recognized as “exemplar,” indicating exceptionalism in inclusive excellence and that “the institution can serve as a role model to others,” according to ASEE. Dartmouth’s Bronze Award status is valid for three years from 2020–2022.
- A climate survey will be administered in Fall 2020. Members of the Thayer community — faculty, staff, postdoctoral fellows, graduate students, and BE students — will be invited to complete the survey. The survey will help us better understand and collect baseline data on how members of the community experience and view the climate at Thayer. Reports and dashboards will be available late fall/early winter, followed by Climate Review Workshops in Winter 2021.

NEXT STEPS

While Thayer has taken important steps toward creating a more diverse and inclusive school over the past year, there remains a long road ahead. A strong leadership team and an engaged corps of faculty, staff and students who are committed to advancing this important work are in place. Findings from the climate survey will inform our future plans and help us measure our progress. Details on additional plans will be announced in fall term, and we will report back to this community regularly.

APPENDIX

Enrollments by gender, race and ethnicity, residency - Fall 2019

Undergraduate (AB)

Masters

Doctoral

Faculty by gender, race and ethnicity - Fall 2019

Core faculty

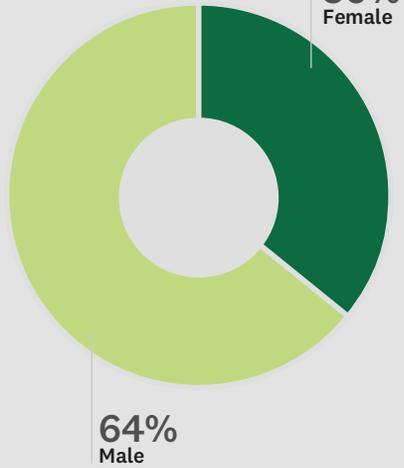
Tenured and Tenure Track faculty

ENROLLMENTS

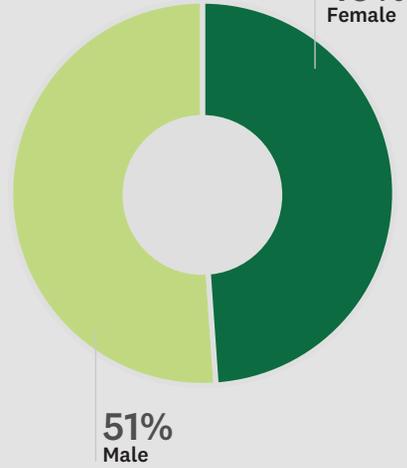
Undergraduate (AB)

Fall 2019

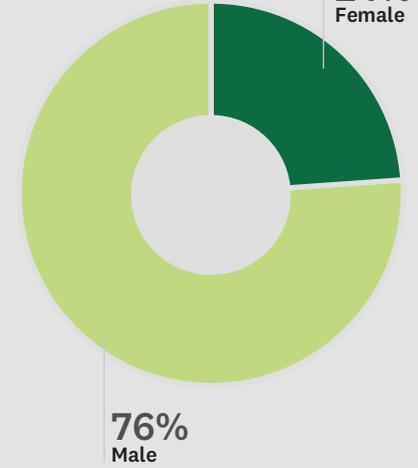
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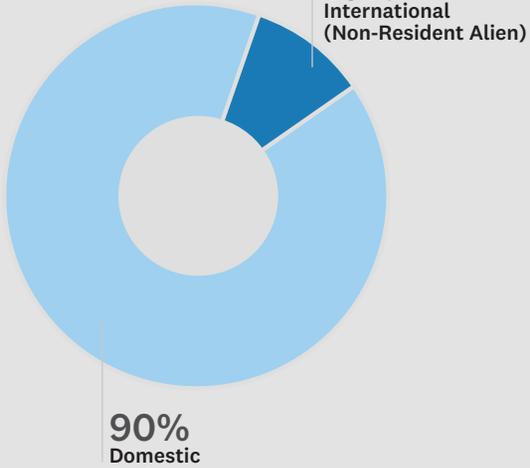
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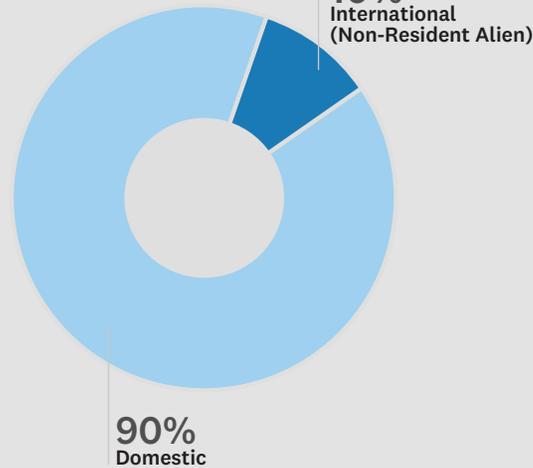
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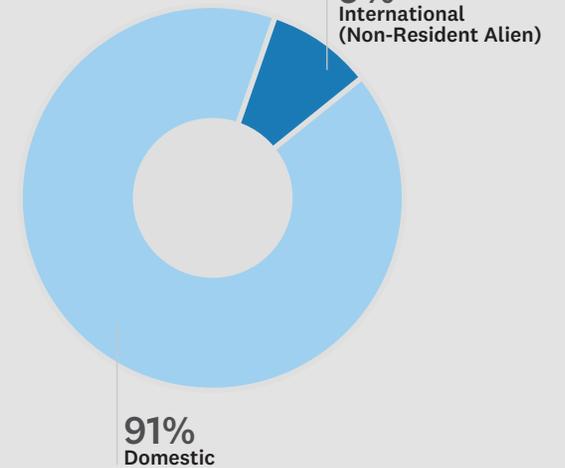
BY RESIDENCY
(THAYER)



(DARTMOUTH)



(National Avg. ASEE)



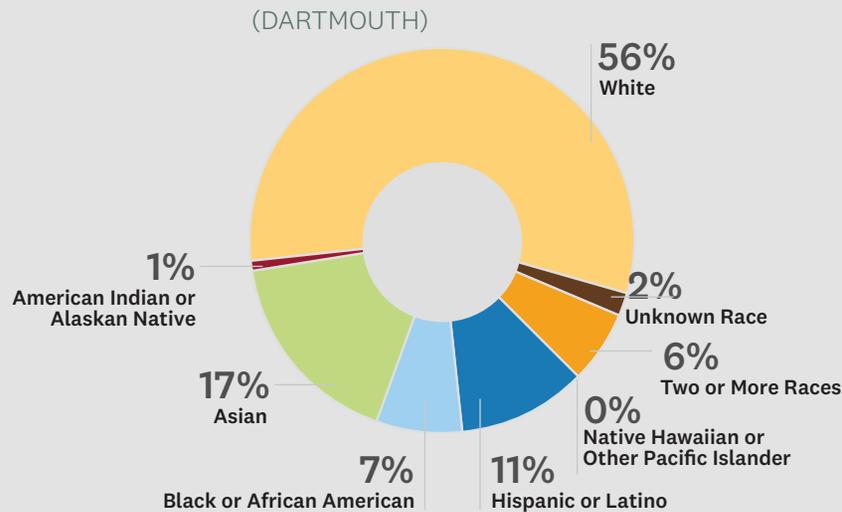
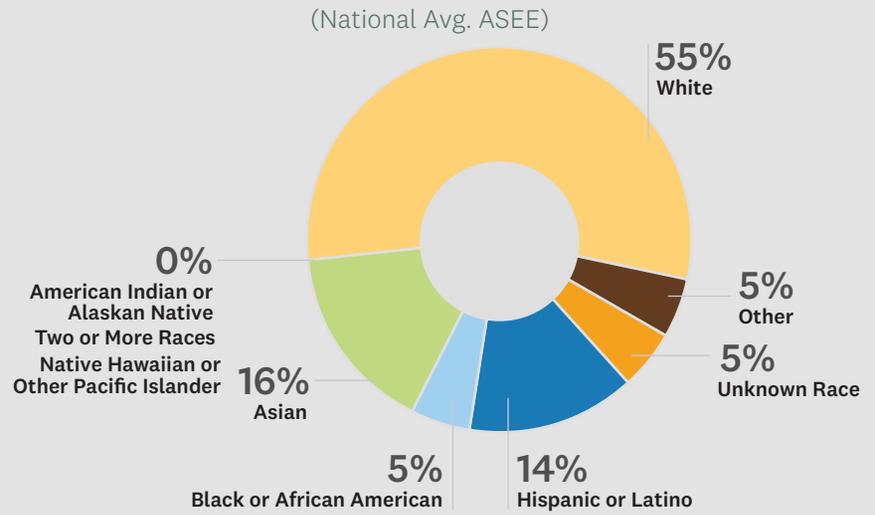
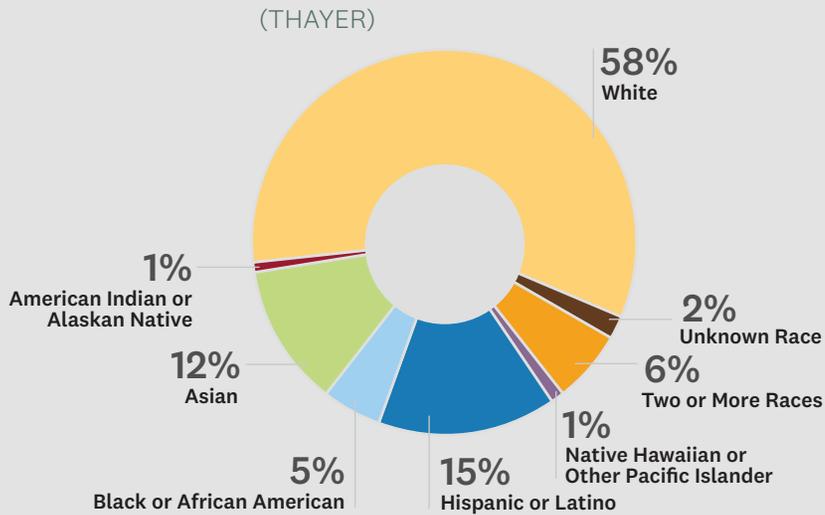
ENROLLMENTS

Undergraduate (AB)

Fall 2019

BY RACE/ETHNICITY*

*Definitions align with U.S. Department of Education, ASEE and NSF. Non-resident aliens are not included in any of the race and ethnicity categories.



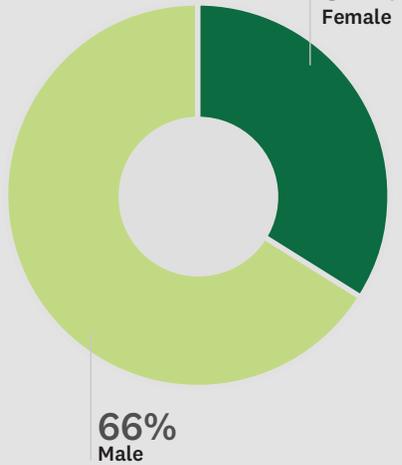
ENROLLMENTS

Masters

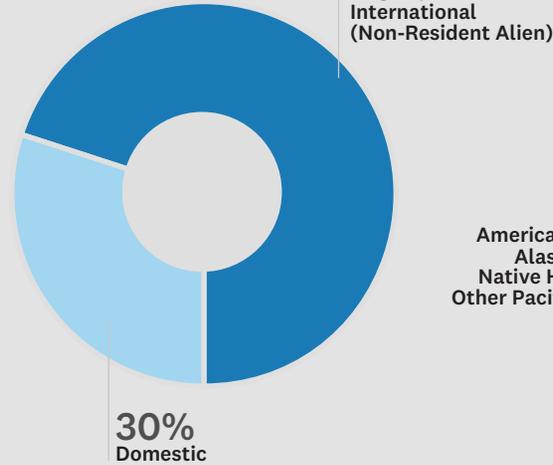
Fall 2019

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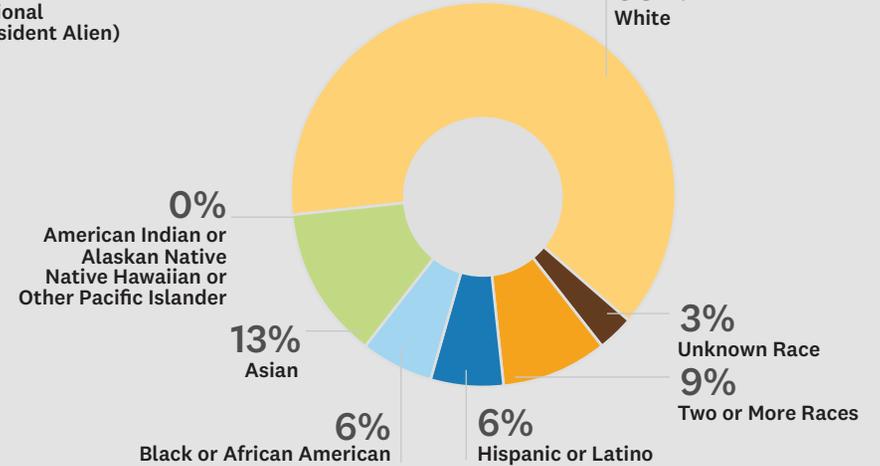
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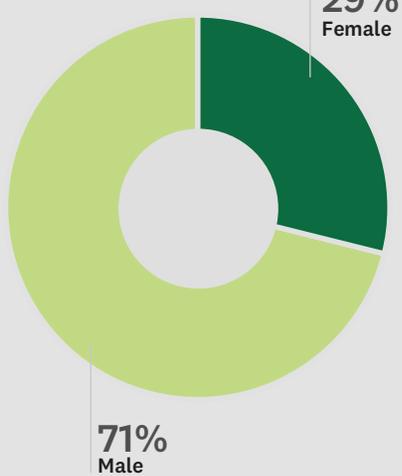
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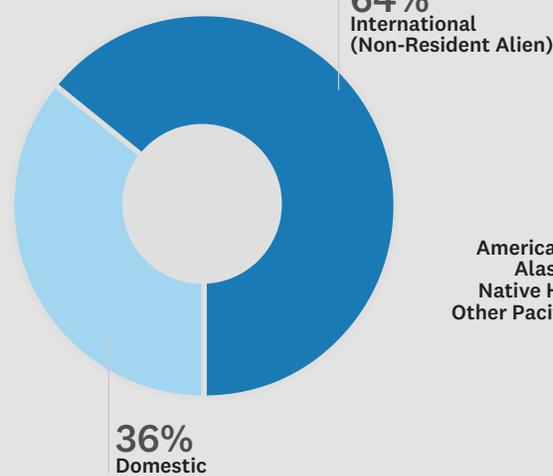
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(THAYER)



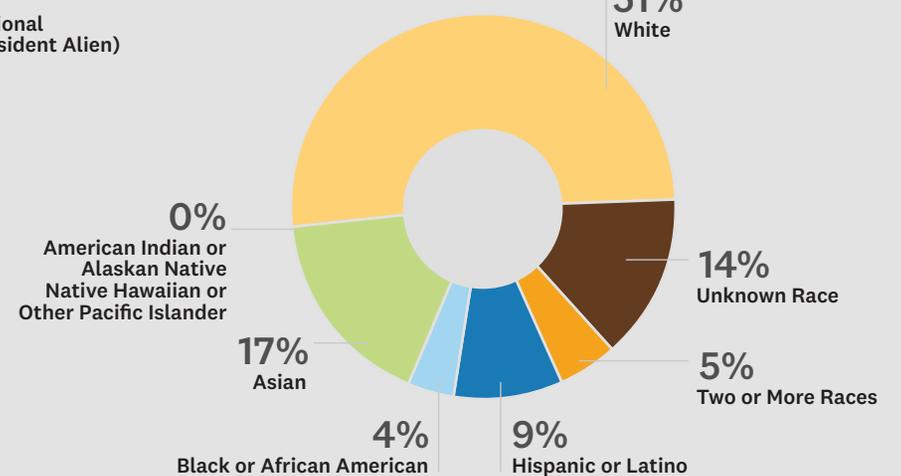
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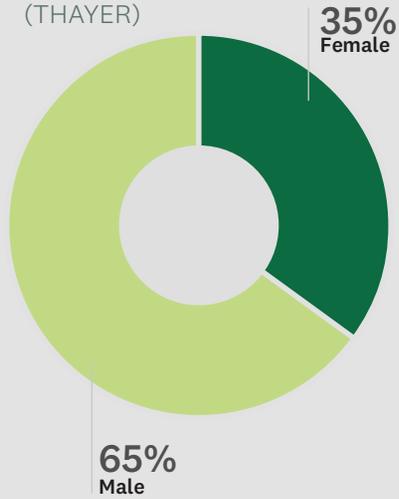


ENROLLMENTS

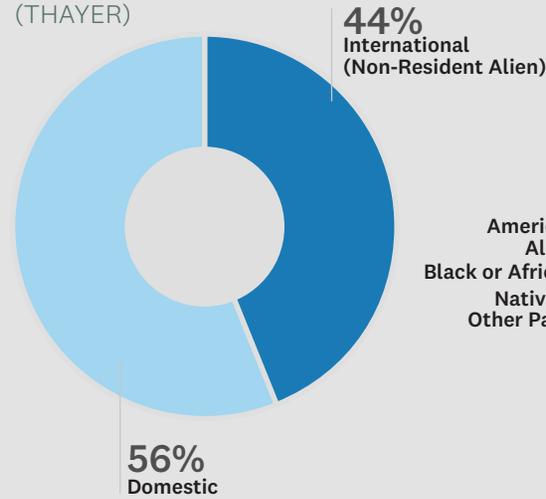
Doctoral Fall 2019

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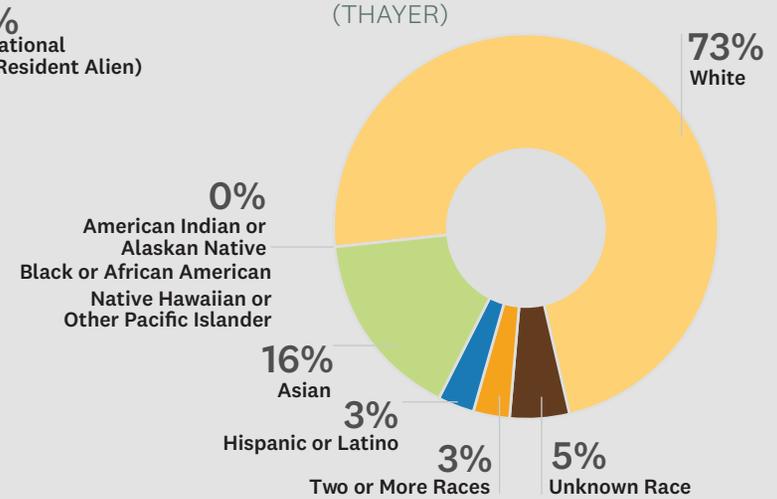
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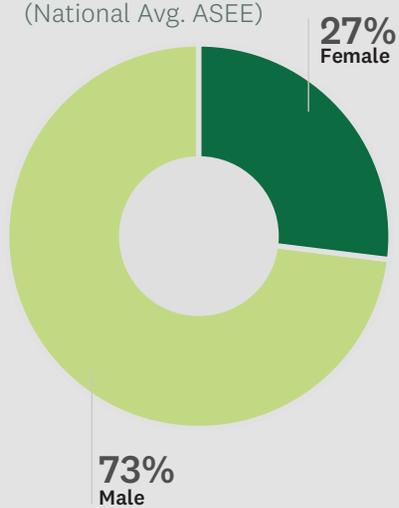
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(THAYER)



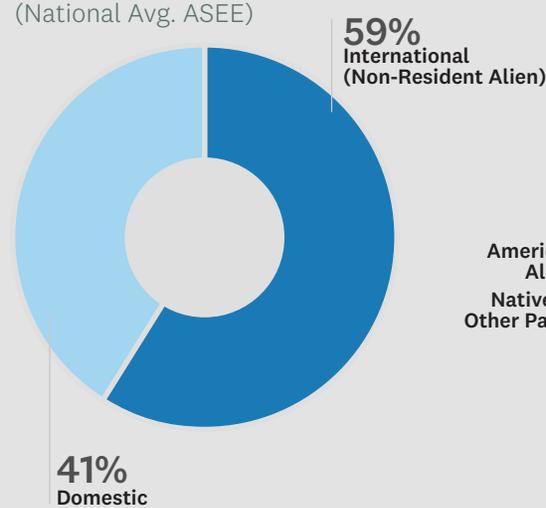
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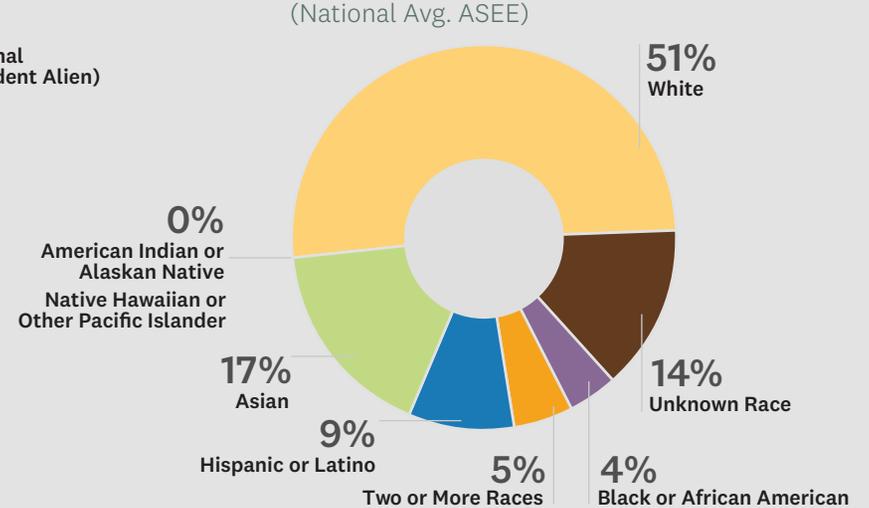
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BY RESIDENCY
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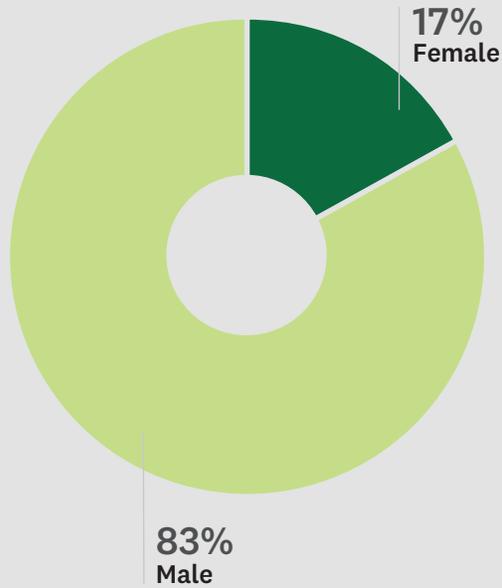


FACULTY

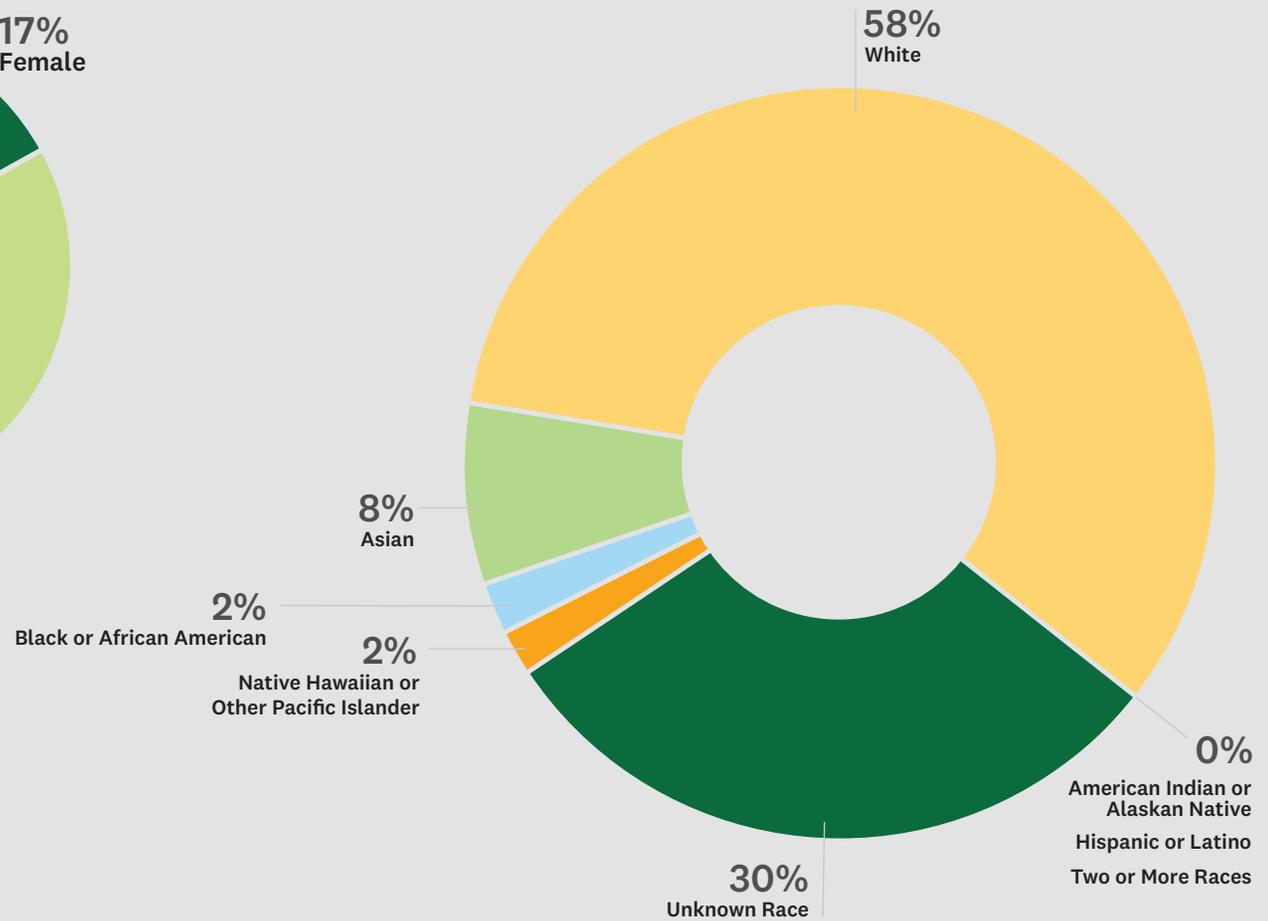
Core Faculty

Fall 2019

BY GENDER



BY RACE/ETHNICITY*



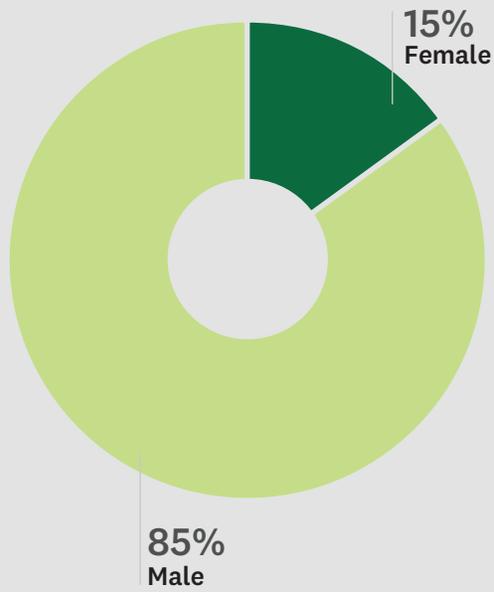
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FACULTY

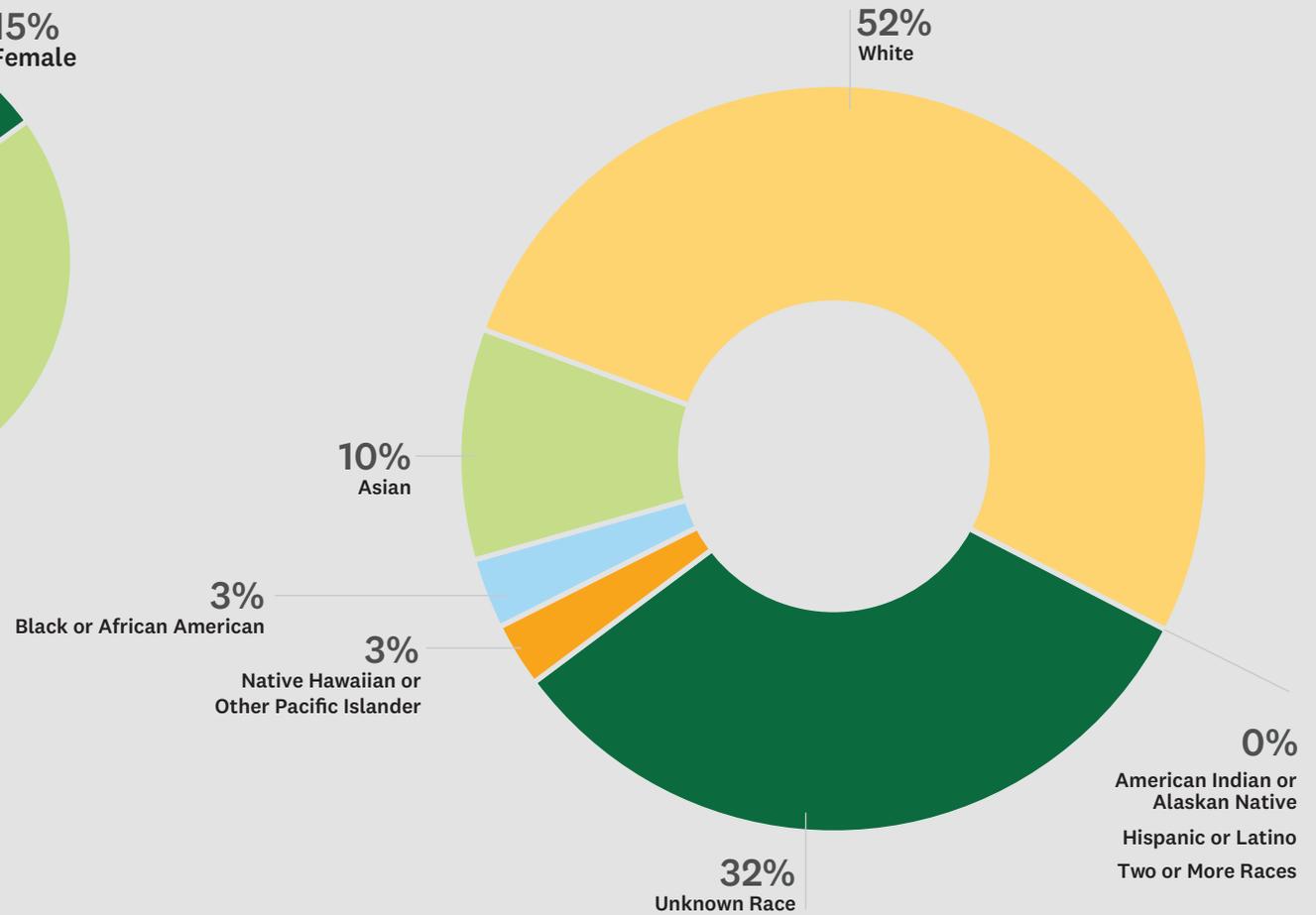
Tenured and Tenure Track Faculty

Fall 2019

BY GENDER



BY RACE/ETHNICITY*



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FACULTY

Tenured and Tenure Track Faculty

Fall 2019

