



SMU.

LYLE SCHOOL OF ENGINEERING

Office of the Dean

November 16, 2020

Dear ADRP Selection Committee,

I, Marc P. Christensen, am in full support of this application to the ASEE Diversity Recognition Program (ADRP). [November 16, 2020]

The Lyle School of Engineering at Southern Methodist University in Dallas Texas, is committed to the continuous process of greater diversity, equity and inclusion within our departments and programs. The accompanying DEi Narrative and Plan outlines actions the Lyle School is currently taking to grow the STEM pipeline and increase the numbers of underrepresented students and faculty.

Sincerely,

Marc P. Christensen, Ph.D.,
P.E. Dean
Professor of Electrical and Computer
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World Changers Shaped Here

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Diversity, Equity and Inclusion Impact Plan

Vision for Diversity, Equity and Inclusion in the Lyle School of Engineering

The Lyle School of Engineering, together with the Offices of the President and Provost at SMU, strives to create and maintain learning and working environments that are welcoming and inclusive to all members of the Lyle community. Fundamentally, the best engineering happens when ideas are contributed from multiple perspectives. Diverse decision-making teams are critical for innovation and solving complex problems, which are at the heart of engineering. The need for diversity, equity, and inclusion efforts are particularly salient in the field of engineering, where women and people of color have been historically underrepresented. Taking action in alignment with those outlined in this plan will promote a more inclusive and equitable environment for members of the Lyle School community who may feel marginalized in one way or another. For the Lyle School to be its best, as well as graduate its best, we need individuals of all backgrounds to feel a sense of belonging. We need all of our students, faculty, and staff, to feel welcomed and needed in order for them to contribute to the challenges facing our world.

Diversity, Equity and Inclusion Mission

We will create an environment representative of our global society for which all persons within the Lyle School are empowered to succeed, therefore, this plan is rooted in the principles of Diversity, Equity and Inclusion, (DEI). Our priorities and goals align with the Lyle School's 2019 Strategic Plan, *Engineering with Impact*. The Lyle School's DEI Plan includes the people, processes practices and partnerships to facilitate our aspirations to pursue engineering education and research with the greatest impact.

While the field of engineering consist of culturally diverse populations, women, Blacks, Latinx, Native American Indians, and Pacific Islanders are underrepresented in engineering and technology. This plan outlines mechanisms and activities to achieve successful outcomes for students, faculty and staff, with an emphasis on the aforementioned underrepresented minority, (URM), groups. The plan's strategic framework consists of actionable initiatives that form diversity, equity and inclusion pillars for students, faculty and staff. Our key objectives aim to 1) increase URM student recruitment, retention, graduation, and first destination success (employment or graduate school) 2) develop and implement a comprehensive plan for increasing the number of URM faculty, and 3) improve organizational culture for staff development and success. Whereas several initiatives are currently underway to support these efforts, the addition of the Assistant Dean of Diversity, Equity, and Inclusion position ensures organizational change and long-term sustainability.

Acknowledgement of Leadership Commitment: Dean, Marc P. Christensen has signed the ASEE Dean's Diversity Pledge.

DEI Objectives

- I. Increase URM student recruitment, retention, graduation, and first destination success
- II. Develop and implement a comprehensive plan for URM faculty recruitment and support
- III. Improve organizational culture for staff development and success

Objective One – Increase URM student recruitment, retention, graduation, and first destination success

Goal 1 – Increase URM, (Black and Latinx), enrollment to 25% by 2024 (currently 20%)

For the past three years, the Lyle School of Engineering has maintained a higher than average female enrollment. In the 2019-2020 academic year, women represent 32% of incoming first year students, 33% of enrollment and 37% of the graduating class. While we have been successful recruiting and graduating women, we have maintained lower numbers of ethnically underrepresented, (Black and Latinx), populations. In the course of recruiting the most academically talented students, The Lyle School’s Office of Recruitment and Retention will work with The University’s Central Recruiting and Admissions Office to identify students within traditional applicant pipelines and pursue new sources of applicants such as community colleges and targeting prospective graduate students.

Recruiting Strategies

Efforts to recruit students from historically URM groups and continuing the process of applying for and gaining admittance to the engineering school occur at all levels. Lyle will work together with departments, institutes and centers to support the recruiting team’s efforts to yield admitted students, a greater emphasis will be placed on ethnically URM groups given their potential for multiple college acceptances and offers.

Recruiting strategies include:

- Outreach to College Admissions Counselors from schools with higher URM demographics
- Enlist the help and incentivize SMU’s NSBE, SHPE and SWE chapters to assist with on-campus tours, event attendance at the Annual Early Admitted Student Reception and other spring admitted student yield events
- Increase in gap scholarships, (5k-8k)
- Early acceptances in Accelerated Master’s Programs
- Early acceptances in the Co-op Program
- Marketing Campaign, DEI initiative “**YOUBelong@Lyle**”

Pipeline Strategies – K-12 Outreach

Beginning with initiatives at the K-12 level, the Lyle School’s Caruth Institute for Engineering Education (CIEE) offers summer camp and outreach activities for students interested in pursuing education in an engineering or STEM related field. Our Hamon Foundation Camps are one program specifically focusing on URM students. These camps offer a two-week in-residence experience for students to engage in engineering activities alongside current engineering students and faculty at the Lyle School. The goal of each camp is to inspire students to pursue engineering as a field of study and future career. In addition, students who attend the Hamon camps, upon application and admittance to SMU Lyle, receive a scholarship to help support their academic endeavors. Scholarship amounts per year vary depending on the number of eligible students, and are available to these qualified students during their four years of undergraduate attendance.

In addition to the camps, the CIEE, along with the Hart Center for Engineering Leadership, will host Engineering Days for nonprofit organizations whose mission it is to provide exposure and generate interest in STEM fields. The Hart Center, Faculty and the Office of Recruitment and Retention participate in panels to address the admission process and student success.

Pipeline strategies include:

- Caruth Institute for Engineering Education Programs – Lyle and Hamon Summer Camps
- Collaborations with Black and Latinx STEM and STEAM Programs, (Ex. Links Inc., Jack & Jill of America)
- Increase opportunities for summer research opportunities for high school students

Funding Strategies

The Lyle Executive Board is passionate about increasing the number of URMs in engineering and STEM related fields. In 2017, a sub-committee was created to work on a fundraising initiative to increase the number and amount of scholarships available for this population of students. SMU’s President, Dr. R. Gerald Turner, approved an approach to allow the school to raise “gap” scholarships, or funds added to other scholarships as a way to allow us to meet full need for URM students. During the first year of this initiative, funds were raised to provide annual scholarships in the amount of \$5,000 per year for four years to four students from underrepresented populations. The short-term goal of the board is to raise funds sufficient to support a minimum of ten students per year. These ten students would represent a 4% increase in URM matriculates into the Lyle school. A long-term goal for the sub-committee and the Lyle School is to secure endowed funding to support this initiative into the future.

Recently, SMU hired a Director of Corporate Giving to form key partnerships for student success, research, and other initiatives. The Lyle School will work with this office and the Lyle School’s Development and External Affairs Officer to identify opportunities to support our overall DEI goals and initiatives.

Funding strategies include:

- Lyle Executive Board Fundraising
- URM Alumni Fundraising
- Corporate Funding/Program/Activity Sponsorship

Assessment

- Track URM students in each phase of the recruiting pipeline
 - % URM applications
 - % URM admitted students
 - % URM matriculated students
- Evaluate effectiveness of prospective URM student pipelines and strategies for recruiting, i.e. camps, high school outreach, and partnering organizations
- Evaluate URM fundraising efforts to determine effectiveness

Goal 2 – Increase URM retention, graduation and first-destination success outcomes

The Hart Center for Engineering Leadership offers services and programs to enable academic achievement, leadership and career development. The Center provides academic advising, leadership and career development coaching. The center’s directors and program managers meet monthly to discuss students who are facing academic challenges, high absenteeism, and other behaviors that may place them at-risk of leaving engineering or SMU. The group develops a plan to support students.

Academic Support Strategies

Lyle’s Undergraduate Advising and Student Records Office assists pre-major and transfer students with academic records, course selection, and filing for graduation. This office plays an important role in communicating degree requirements and setting the expectations for successful progress to obtaining an engineering or computer science degree. Currently, the Director advises the majority of URM students. Students are encouraged to build community within the Lyle School early in their academic career in order to form an “engineering identity”. The Director shares information about supplemental instruction, tutoring, and first-year engineering courses such as the ‘Engineering and Beyond’ and ‘Introduction to Engineering Design’ courses. These courses engage students in project-based work that provides opportunities for students to build relationships with engineering peers.

Academic support strategies include:

- “Design Your Lyle” degree plans that include engineering and computer science co-curricular activities and work experience opportunities
- Supplemental Instruction – Pre-major and major courses

- Facilitated study groups in residential commons
- Early and midterm academic alerts and intervention advising
- Information exchange with the Office of Social Change and Intercultural Engagement and Rotunda Scholars (Rotunda Scholars is a bridge program for students meeting a criterion of need beyond the needs of the majority population)
- Academic success sessions with NSBE, SHPE, and SWE Chapters
- Transfer student orientation and advising
- Workshops that focus on study strategies
- Group work in the Introduction to Engineering Design Course
- Academic bootcamp/BRIDGE program for URM students

Student Success (First Destination) Strategies

Student success strategies include:

- Professional Development Career Preparation
 - Hart Center Advisors for NSBE, SHPE and SWE
 - Academic and Career Programs – Major and Career Selection
- Peer Mentoring Program (academic and social involvement)
- Resume Books to Industry for URM internships/full-time employment
- Career Coaching and Workshops
- Diversity & Inclusion Alumni Panels
- Industry Mentorships
 - Increase URM Alumni participation
- Student Organization Club Support
 - Student Engineering Joint Council Incentives
- Leadership and Faculty Engagement
 - Dean’s DEI Student Circle
 - Department Advisory Groups

Assessment

- Measure retention and graduation rates for URM students
 - % of URM first-year completion rates
 - % of URM major declarations
 - % of URM graduation rates
- Monitor URM student involvement in co-curricular and extra-curricular involvement in study groups and student clubs
- Track internship and full-time work experience outcomes for URM students
- Monitor and track years to completion for URM students

Objective Two - Develop and implement a comprehensive plan for URM faculty recruitment and support

Goal 3 - Increase the number of full-time tenured track URM faculty candidates to 10% by 2027

Some of the biggest challenges related to recruiting full-time faculty in higher education from URM populations are consistent with the high demand for, but lower numbers of URM Ph.D. students pursuing careers as faculty in STEM fields. Regardless of the challenge, the Lyle School is committed to increasing and retaining URM faculty. Diversifying the Lyle School's faculty is critical for enriching the intellectual environment for all faculty and improving the climate for current and future faculty and students. Our faculty DEI effort is underscored by the impact of faculty on student retention and graduation. A diverse faculty that includes URM groups positively correlates with URM student enrollment, retention, and graduation. We recognize that a campus-wide effort that is inclusive of cross department collaborations, as well as university policies and practices, is needed to achieve greater faculty diversity. The Lyle School will focus on developing a comprehensive plan to source and recruit candidates and establish systems of support for tenure and promotion.

Candidate Sourcing and Recruiting Strategies

Candidate sourcing and recruiting strategies include:

- Membership in national organizations focused on growing the pipeline of URM students pursuing PhDs (GEM, SREB)
- Extend summer research opportunities for URM undergraduate and graduate students
- Advertise in a wide variety of mediums to broaden the reach to potential candidates
- Develop cluster hiring strategies to recruit and hire a cohort of faculty from underrepresented populations.
- Outreach to HBCU, HSI, and Women's Colleges for new PhD and Post-Doc candidates
- Market DEI initiative "**YouBelong@Lyle**"
 - Revise and broaden the language used in recruiting communications. Minority and female applicants are most likely to self-select out of the application process (relative to White males) when they perceive that they are unqualified for a posted position.
 - State preference for applicants who have demonstrated experience in research, teaching, and/or service to historically underrepresented and underserved communities
- Beyond the EEO non-discriminatory statement, communicate that the Lyle School values candidates' diverse backgrounds, perspectives, training, and experiences. Develop a guidebook and written policies for search committees for hiring and developing URM faculty
 - Include a non-voting DEI representative on hiring committees to ensure inclusive and equitable decision-making
- Enlist student, alumni, and professional groups, (SHPE, NSPE, SWE, alumni Greek organizations, industry employee resource groups) to recruit faculty

Assessment

- Document applicants' doctoral degree-granting institutions and referral sources
- Track utilization of job advertisement and networking outlets
- Measure representation by demographic group and other diversity indicators during all stages of the recruitment and hiring process
 - % URM candidates in application pool
 - % URM candidates in each round of the interview process
 - % URM candidates given job offers
 - % URM candidates who accept job offers
- Examine demographic distribution of faculty in tenure-track and non-tenure track roles

Goal 4 – Enable faculty success

In conjunction with the Associate Provost for Faculty Success, we will work to institute best practices and methods for supporting individuals from underrepresented populations in their tenure and promotion process. Our plan will invest in success by removing barriers and providing resources that position URM faculty for productive research, effective teaching, and impactful service.

URM Faculty development and support strategies

The Lyle School's supportive culture provides the environment for URM faculty to advance in their careers. Beginning with the Dean and Department Chairs as advocates and mentors, URM faculty will receive advising and coaching to aid their development.

URM faculty development and support strategies include:

- Create a new faculty onboarding program
- Lead DEI and Cultural Intelligence training throughout all of Lyle with an emphasis on unconscious bias, bystander and micro-aggressions awareness
- Encourage balanced work-loads (teaching, research, service responsibilities) to support candidate and institutional priorities, i.e. – research productivity, retention and/or promotion
- Work with the Associate Provost for Faculty Success to ensure academic units follow institutional guidelines for promotion and tenure
- Encourage and incentivize mentoring of URM faculty
- Convene forums for interdisciplinary cross-campus research collaboration
- Offer direct support to identify non-traditional external funding opportunities

Assessment

- Review URM tenure-track faculty's progress in each area of review
- Monitor tenure-track faculty three-year renewal success rate for URM populations

- Evaluate demographic distribution of faculty promotions to ensure equitable decision-making

Objective Three - Staff Development and Success

As with all academic institutions, the faculty and staff on a campus are considered the face of that institution. As a member of the Dallas community, the Lyle School strives to better represent our community at all levels. The goals of the school include recruiting not only students, but faculty and staff from all underrepresented populations in an effort to ensure that members of the community can see themselves studying and working at the Lyle School of Engineering. In addition, the school is working to build partnerships within the Dallas community as a way to show members of the community that studying and working at the Lyle School is attainable.

Goal 5 -Improve staff success and advancement opportunities

Policies and practices strategies

Utilizing the university guidelines for creating a diverse pool of candidates has provided the Lyle School with the opportunity to increase the number of individuals who identify as those from URM's by 11% in one year. Although we take pride in our staff diversity, we will actively seek more equity and inclusiveness for all Lyle staff, and we will review hiring, performance-based increases, and promotions for any indication of disparities across our diverse groups.

Policies and practices strategies include:

- Create a new Staff Onboarding Program
- Evaluate Lyle's organizational structure to align with strategic goals and priorities
 - Encourage vertical and horizontal communication, feedback, and promote personal agency
 - Align talents and tasks
- Revise performance review process, including manager training to ensure consistency throughout the school
- Create a process of transparency related to annual reviews
- Conduct annual climate surveys

Professional development strategies

The Lyle School has a strong history of recruiting and retaining staff members who identify as those from historically underrepresented populations. Staff play an important role at the Lyle School and are often called upon to serve on committees within the school and across campus. Having a strong representation of all populations brings robust insight into problems facing the institution. Lyle staff actively engage in all aspects of operation for the school, whether it be in student support activities, or activities related to administrative duties and faculty support. The Lyle leadership team works diligently to ensure we are hiring the best and brightest for open

positions. The Lyle School will actively support and recognize the professional development of staff.

Professional development strategies include:

- In conjunction with Human Resources, develop a retention and career advancement pathway program
- Create opportunities to develop an internal talent pool
- Identify value-add certifications, professional development and training for staff to attend
- Extend Hart Center program offerings to staff, (count as PD for performance reviews)
 - HLA and Coaching Programs
 - Mentorships through Lyle Success Connections platform
- Incentivize the mentoring of junior staff

Culture improvement strategies

We are fully aware that our human capital in the classrooms, labs and offices powers our success. It is often said, “culture eats strategy for breakfast”. Therefore, our success cannot be achieved without a supportive and high-achieving culture. We will seek to examine and improve the Lyle School’s culture to improve the quality of work life for Lyle Staff.

Culture improvement strategies include:

- DEI and Cultural Intelligence training throughout all of Lyle with an emphasis on bias, bystander and micro-aggression awareness
- Create a culturally diverse holiday calendar and encourage colleagues to participate and discover appropriate ways to celebrate various traditions
- Provide Employee Resource Groups, (ERGs) that serve staff and faculty members as a means to share resources, encouragement, and promote advocacy. Examples of ERG groups are Black, Latinx/POC, Women, Veterans, and LGBTQ+
- Provide leadership development training throughout the school that is inclusive of management and coaching skills
- Conduct small group quarterly listening sessions with staff and senior leaders
- Celebrate research, academic, and administrative work through digital displays, emails, and other communication channels
- Include presentations by staff highlighting their work and impact on the school in faculty and staff meetings

Assessment

- Track employee retention across all demographic groups
- Conduct a comparative analysis of promotions across all demographic groups
- Examine survey to determine job satisfaction

Summary

The Lyle School is committed to operationalizing its DEI Plan. While many of the strategies are currently in place and available to all Lyle students; however, URM populations struggle to engage in activities that will support their success. The success of this plan is grounded in focusing efforts on URM students. Additionally, the Lyle School will prioritize efforts to recruit and support URM Faculty. The implementation process includes setting a reporting structure to ensure accountability and a means of assessment. The DEI will be a living document for which we will adapt base on the progress towards goal attainment.