

## College of Earth, Ocean and Environment (CEOE) Diversity Goals: Why Diversity Matters, Where We Are, What We Are Doing

### ***Why does diversity matter?***

Diverse campus communities improve the educational experience of all students on campus, promote inclusion, social equity, and prepare students for the diverse world they must navigate upon graduation. In addition to the legal and social equity arguments for an active approach to addressing diversity, research in higher education has demonstrated the educational benefits of diversity including important and long-lasting impacts on the intellectual and democratic engagement of students of all backgrounds (Milem 2003, Milem et al. 2005, Shaw 2005). Particularly important to a college focused primarily on STEM majors, others have noted that a scientific community that represents the population of the community as a whole is better suited to serve societal needs (Velasco & Jaurrieta de Velasco 2010).

A review of longitudinal studies conducted nationally and at the University of Michigan concluded that formal classroom and informal campus interactions with students of diverse background enhanced the educational experience of all students (Gurin et al. 2002). Learning outcomes (i.e., active thinking, intellectual engagement and motivation, academic skills) improved by engagement in a diverse community. Likewise, democracy outcomes such as citizenship engagement and perspective-taking were positively correlated with a college experience that included formal and informal interactions with students of different races.

The University of Delaware community does not reflect the diversity of our state and region. The Middle States Commission on Higher Education review (2011) identified several areas for improvement and highlighted the need for plans to increase the racial/ethnic diversity of our undergraduate student population

*Diversity*, for the purposes of this effort, includes but is not limited to race, gender and gender identification, ethnicity, economic circumstances, 'first generation college,' veteran status, sexual orientation, nationality, disabilities, and should be considered relative to all students and employees.

*Source:* Dr. Carol Henderson, Vice Provost for Diversity, UD

as well as study the reasons for the significantly lower graduation rates for underrepresented minorities (URM). More recently, high profile attention to enrollment and retention statistics has drawn criticism of the University admissions policies and general climate (Albright 2015; Hayman 2015).

Within the former and current strategic plans, the University of Delaware highlights campus diversity as a key initiative that will enhance the educational experience of all students and assist them as they prepare for their professional lives. Equity in access and retention is considered critical within the mission of the University. As stated in Delaware Will Shine:

“The University views diversity as critical to our pursuit of excellence, critical to our future, and critical to our students and their success as we prepare them for future careers and lifelong civic engagement. ... Every member of our campus community— faculty, staff, and students—should envision where they connect with these grand challenges and how their knowledge, skills, attitudes, and efforts can be applied to make a difference.”

<b>Recent Diversity Activities at UD</b>	
2008	UD Adopts Path to Prominence
2008	President Harker appoints Diversity Task Force
2009	Diversity Task Force issues Final Report
2009	Office of Equity and Inclusion established
2011	Middle States Commission on Higher Education report Center for the Study of Diversity established in CA&S
2012	Presidents’ Diversity Initiative est. w annual reporting
2014	NSF Awards UD an ADVANCE grant
2015	NAACP Letter to Delaware Joint Finance Committee
2016	President Assanis confirms commitment to promoting inclusive excellence across campus
2016	<i>Inclusive Excellence: A Diversity Action Plan for UD</i> is formalized.

As the University of Delaware continues to explore mechanisms for increasing the diversity of our students and faculty, CEOE is challenged to review our current community profile, identify any areas where we fall short in inclusiveness, and develop opportunities to address any shortcomings. In his inaugural speech to the campus community, President Assanis reconfirmed his and the University’s commitment to inclusive excellence, and noted that “Diversity, equity and inclusion are absolutely core to our institutional character and our educational mission at the University of Delaware.” The UD Inclusive Excellence Action Plan provides strong guidance for achieving greater diversity throughout the University and in our unit, specifically. Actions at the College level are appropriate and necessary to ensure UD meets its obligation to provide equal access and opportunity to all. This summary report provides details on the current status in CEOE, recent efforts to improve diversity across the College, and our plans for future efforts to pursue inclusive excellence in the College of Earth, Ocean and Environment.

***Diversity within CEOE: trends and room for growth***

The College of Earth, Ocean and Environment is comprised of two departments (Geological Sciences and Geography) and one school (the School of Marine Science and Policy), and is the administrative base of the Delaware Sea Grant College Program and the Delaware Geological Survey. A brief history of the development of the college is provided below. We offer undergraduate degrees in all three units, including B.S. degrees (in Earth Science Education, Environmental Science, Meteorology and Climatology, Geological Sciences, and Marine Science) and B.A. degrees (in Environmental Studies, Geography, Geography Education, and Geological Sciences). CEOE also offers both MS and PhD degrees in all three academic units.

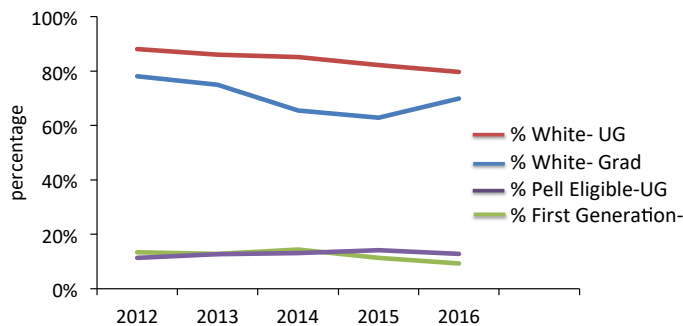
Diversity across CEOE has been on an improving trend but will require sustained attention to ensure continued progress. As with most units at UD, diversity across CEOE needs improvement. The lack of diversity can be traced, in part, to an overall lack of diversity across the geosciences in the US and internationally. Of all STEM fields, the geosciences have the lowest diversity at all levels of higher education (National Center for Science and Engineering Statistics, 2015). From 2000 to 2008, 16-17% of undergraduate degrees in STEM fields were earned by underrepresented minorities, but only 5-7% of these were in the geosciences (O’Connell & Holmes 2011). We include these data here not to suggest that there is simply nothing we can do to fight this trend, but rather to put our diversity concerns in the context of the broader issues faced by all in this field.

### History and Leadership of the College of Earth Ocean and Environment

- 1970** Graduate College of Marine Studies (CMS) founded. Dr. William Gaither is appointed Dean.
- 1985** Dr. Carolyn Thoroughgood named Dean.
- 2005** Dr. Nancy Targett named Dean.
- 2006** Department of Geological Sciences joined the College, bringing the first undergraduate programs to the College; name changed to College of Marine and Earth Studies (CMES).
- 2009** Department of Geography joined the College; name changed to the College of Earth Ocean and Environment (CEOE).
- 2017** Dr. Estella Atekwana named Dean of CEOE.

### Students

Despite diversity emphasis in the Path to Prominence, many UD and non-UD community members argue that progress is not sufficient. UD enrollment in 2015 was 75% white for undergraduates, compared to 64% in the State of Delaware, and is a continuing challenge recognized by the Administration. UD’s graduate enrollment is more balanced with 49% white. Of particular concern is the very small (5% in 2015) black undergraduate student body when



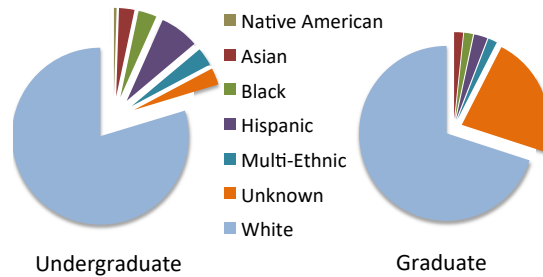
**Figure 1.** CEOE Undergraduate enrollment by percent white, first-generation, Pell Grant eligibility status, and Graduate enrollment by percent white.

compared with the overall population within the state of Delaware (22%). Within this larger community, in 2016 CEOE enrollment was 80% and 70% white, for undergraduates and graduates (Fig. 1), respectively. We have seen an almost doubling of our undergraduate student body from 2012 to 2016 (from 212 to 405 undergraduates in CEOE), and have made slow but steady increases in the racial and ethnic diversity of our students. These changes are important,

but more needs to be done. The three sub-units comprising CEOE (School of Marine Science and Policy, Department of Geology, Department of Geography) face diversity challenges within their respective professional fields that pose long-standing challenges to recruitment and enrollment of students and faculty to increase the diversity in the College. We aim to be able to

compare our data with those from peer institutions but most available data is aggregated at the University level and not available for specific majors or departments.

Over the past five years, first generation college students have made up between 9% (2016) and 14% (2014) of incoming students to CEOE undergraduate programs (Fig. 1). Students eligible for Pell Grants comprised between 11% (2012) and 14% (2015) of incoming undergraduates; the 2016 group of students includes 13% Pell-eligible students.

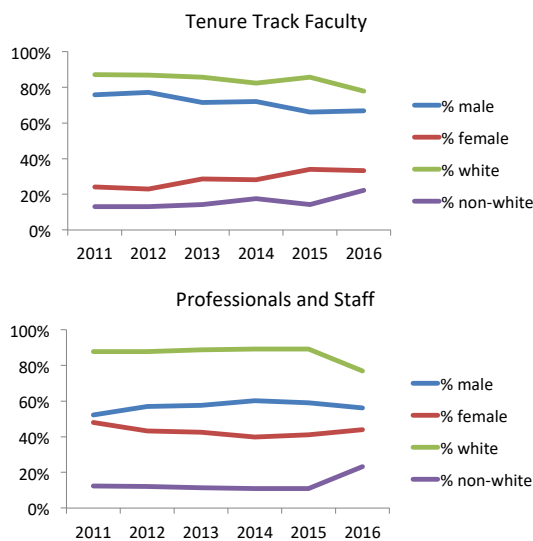


**Figure 2.** CEOE student diversity (2016)

We have roughly balanced gender representation among students in our college. Within SMSP, undergraduates are 64% female (n=110). In Geological Sciences, 45% of students are female (n=42). Programs under the Department of Geography boast perfect gender balance at 50% female and male (n=255). Looking at the College as a whole, of the 405 current CEOE undergraduates, 53% are female. Gender balance among graduate students across the college is comparable; currently 49% of CEOE graduate students are female.

**Faculty and Staff**

As with students, we have achieved recent improvements in diversity of our faculty and staff.



**Figure 3.** Gender and racial diversity among CEOE Faculty (top panel) and Professionals and Staff (bottom panel).

Gender balance among the faculty across CEOE has improved in the past five years with 33% female to 67% male of the 55 faculty across the three academic units (Fig. 3, top panel). Staff, including professional staff, postdoctoral and research associates, is roughly gender balanced with 44% female to 56% male (Fig. 3, bottom panel). While we have also pursued a more balanced ethnic diversity in faculty and staff in the college, and have seen improvements (see purple trend lines, Fig. 3), there is room for growth. In such small departments, each faculty member hired has the potential to increase substantially the long-term diversity of the College, as seen in the improving trends between 2015 and 2016. Recent trainings by the CEOE ADVANCE fellow for search committees (see below) addressed the need to pursue diversity in upcoming hires. In 2016, SMSP search

committees have required candidates to submit a diversity statement along with their teaching and research statements. As of 2017, the CEOE Committee on Diversity now requires all faculty search committees to actively seek out or give full consideration of applicants’ cultural experience by requiring each candidate to provide a diversity statement with their application.

As the smallest of the University of Delaware's seven colleges, with a heavy emphasis on science, technology, engineering, and math (STEM) fields, CEOE faces resource, staffing, and cultural challenges that must be given careful consideration when developing policies to address deficits in diversity. It is with this need for multiple perspectives and experiences that we describe our current efforts and long term plans below.

### ***Efforts towards achieving inclusive excellence in CEOE***

The College of Earth, Ocean and Environment has undertaken a number of steps towards achieving inclusive excellence across our college. CEOE was among the first colleges at UD to establish a College-level Committee on Diversity. The committee was integral in the formulation of the CEOE Statement on Diversity (Appendix A). CEOE aims to be a leader in the UD effort to develop and implement policies that, over long-time periods, will enhance the diversity on our campus and ensure we are truly a welcoming, inclusive learning community that reflects our region and country. We have pursued efforts at the undergraduate, graduate, staff and faculty levels to achieve our diversity goals with regard to recruitment, retention and campus climate. These efforts are detailed below.

In July 2015, the **CEOE Committee on Diversity** was established. The Committee's Charge and present membership are below.

#### ***Charge to Committee***

*Diversity is contextual. The Committee will advise the Dean on the status and trends in diversity across the college, including but not limited to, all students, faculty, and staff regarding all forms of human difference--diversity of race, ethnicity, gender, disability, gender identification, sexual orientation, age, religion, culture, first-generation-college, and veteran status.*

*The Committee will provide recommendations for systematically enhancing diversity within the College at all levels (students, staff, faculty, etc.).*

*The Committee will recommend appropriate metrics, reporting, and review mechanisms to enhance accountability of all employees, especially supervisors, in increasing diversity within the College.*

#### ***Committee Roster:***

*Saleem Ali, Professor Geography Department*

*Eliot Atekwana, Professor Geological Sciences Department*

*Estella Atekwana, Dean, College of Earth, Ocean and Environment*

*Jennifer Biddle, Associate Professor School of Marine Science & Policy*

*Sharmayne Burns, Assistant Dean for Finance*

*L. Pamela Cook, UD ADVANCE, Associate Dean, College of Engineering (ex-officio)*

*Kathryn Coyne, Associate Professor School of Marine Science & Policy*

Heather Doty, *UD ADVANCE, Assistant Professor, College of Engineering (ex-officio)*  
David Kirchman, *Professor School of Marine Science & Policy and CEOE ADVANCE fellow*  
Delphis Levia, *Department Chair, Geography Department*  
Janis Lopez, *Assistant Dean for Graduate Services*  
George Luther, *Professor School of Marine Science & Policy and Chief Diversity Advocate*  
Jennifer Merrill\*, *Research Manager, Delaware Sea Grant*  
Mark Moline, *Director, School of Marine Science & Policy*  
Keeley Powell, *Assistant Dean for Undergraduate Services*  
Neil Sturchio, *Department Chair, Geological Sciences Department*  
Sharon Wiegner, *Business Administrator, School of Marine Science & Policy*  
Joanna York\*, *Assistant Professor, School of Marine Science & Policy*

\* *previous Chief Diversity Advocate*

### **Committee work**

The CEOE Diversity Committee meets monthly during the academic year to consider and implement the best approaches to the pursuit of diversity in the College. In the coming months, we aim to create subgroups within the committee to focus on specific goal areas including those for Students, Faculty, Staff, and overall College Climate.

### **Students**

CEOE is pursuing a range of strategies to achieve inclusive excellence and participation in our student population. Our aim is to broaden participation in our undergraduate and graduate programs with people of diverse backgrounds, as outlined in the CEOE Statement on Diversity.

To this end, at the undergraduate level, we have pursued recruitment efforts in Sussex County, DE, to broaden awareness of CEOE's programs in this region with high representation of Latino and Hispanic students, and First Generation and Pell Eligible students. In 2016, we established a formal articulation agreement with the Delaware Technical Community College to provide a clear avenue for community college students to complete their four-year degree through programs in CEOE. Through the Delaware Sea Grant Program (more details below under *DE Sea Grant*), we pursued funds to lower costs for our two-week residential summer camp *{Taking an Interest in Delaware's Estuary (TIDE)}* for students otherwise unable to attend the program. This program has provided an introduction to UD and particularly to CEOE. More specifically, for 10-15 students per year over the past several years, this program can serve as a pipeline for high school students to come to UD. Through our National Science Foundation supported Research Experience for Undergraduate (REU) program, we have prioritized recruitment of a highly diverse group of interns for our summer program. During summer 2016, we piloted a program to make early graduate school offers available to high achieving interns from this program, with the recognition that the REU is a novel approach for the CEOE to recruit excellent and diverse candidates for our graduate programs. We made three offers to interns, and one student from an HBCU institution accepted our offer. We will continue this novel recruitment effort as we are encouraged by this success. In addition, the Department of Geological Sciences recruited and hosted a gender-balanced group of interns during summer 2016. Research has

shown that engagement with research experiences during the undergraduate years, results in greater retention in STEM fields over all students in general, and especially in the case of underrepresented minorities (Velasco & Jaurrieta de Velasco 2010).

At the graduate level we have pursued recruitment of diverse students through the above-mentioned REU program. In addition, we regularly attend the SACNAS (Advancing Chicanos, Hispanics, and Native Americans in Science) conference, to recruit MS and PhD students from the high-achieving and racially diverse attendees of this annual meeting. To achieve retention, CEOE provides funds for registration fees to attend the annual Women in STEM conference for both undergraduate and graduate students from our three academic units. This conference provides guidance in professional development and career planning targeted to women in STEM areas.

### ***Staff and Postdoctoral Associates***

We have sharply increased the diversity of our professional and salaried staff across the college, with hires of two African-American professionals. We also established and granted our first ever CEOE Postdoctoral Research to Promote Inclusive Excellence Award, with financial support from the Office of the Vice Provost for Diversity. The postdoc in this position was Dr. Rosa León, who assisted with 15-Second Science clips provided in Spanish for the DE Sea Grant diversity, equity and inclusion initiative (next section) and who accepted a faculty position at another institution. Our experience in working with her inspires us to create similar positions in the future. Most recently, the University has hired a new Dean, who brings an extensive background in geological research and the perspective of an underrepresented minority group.

### ***Faculty***

In recent years, we have made several hires that have served to increase academic excellence including hiring of women and underrepresented minorities in all three of our academic units. These additions to our faculty are apparent in the improving trends in our faculty breakdown (Fig. 3, top panel), and have resulted in a gender balance among faculty in Geography and 40% female faculty in Geological Sciences. Of the five SMSP hires at the Assistant Professor level in 2017, three are female and one of these is Asian American (all will start in 2018). In 2017, the faculty diversified further with the addition of a professor of African-American descent in the Geological Sciences.

In 2016, all members of faculty search committees attended a Diversity Workshop designed by Dr. David Kirchman, who serves as CEOE's ADVANCE fellow. The goal of the workshops is to promote best practices in hiring. Discussions center on minimizing the impact of implicit bias on the recruitment process and strategies for avoiding these pitfalls in the pursuit of inclusive excellence in the hiring process. Starting in 2016, SMSP search committees requested a diversity statement from applicants in addition to the standard research and teaching statements, as a means to signal our openness to recruiting and supporting faculty from diverse backgrounds, while at the same time providing a mechanism for applicants to provide information to the committee on their commitment to the promotion of diversity.

### ***Delaware Sea Grant College Program (DESG)***

Delaware Sea Grant led efforts to bring diversity, equity and inclusion concerns to the attention of the national network of 33 programs. The 2016 Mid-Atlantic Extension Meeting that hosted a discussion with Dr. Carol Henderson has evolved into a national effort. Delaware Sea Grant staff are now actively participating in developing a 10-year vision for Diversity, Equity, and Inclusion for the Sea Grant Network. With an annual federal budget of approximately \$75M, matched and leveraged with state and private partnerships, the Network has a large footprint across most regions of the country. The visioning effort is being supported with funds from the National Sea Grant Office and participating state programs. With active research, education, professional development, and outreach initiatives in each Sea Grant state, the attention to diversity, equity, and inclusion across the Network is expected to generate tangible results in the coming years.

In 2016, Delaware Sea Grant successfully placed a DSU student in NOAA's Office of Education through the Sea Grant John A. Knauss Marine Policy Fellowship. Participation of the DSU Dean of the College of Agriculture & Related Sciences on the DESG Advisory Council has assisted us in fostering closer relationships with the institution in an effort to diversify our research, student, stakeholder, and outreach communities. In 2018, a new partnership with DSU will provide support for aquaculture at the HBCU, and Sea Grant anticipates this investment will ultimately support research and education fellowships and internship opportunities for the diverse student body.

Sea Grant also assisted with securing funding to bring down the cost of our TIDE Camp to encourage participation of students unable to cover the full tuition of the 2-week summer program. The ERM Foundation provided \$9,000 for the program during summer 2016, and it is our hope that they will continue to support TIDE Camp scholarships.

### ***College-wide efforts***

There is a College-wide effort to engage faculty, staff, and students in our efforts towards a more diverse college. We are in the planning stages with the Office of Equity and Inclusion to offer the ABC's of Diversity Training program to all faculty and staff in CEOE. Also, the director of development for CEOE has taken the concept for inclusive excellence of postdoctoral scholars to the leaders at Development and Alumni Relations. In addition to efforts at UD, CEOE is partnering with the Delaware State University (DSU) through the NSF-funded MADE CLEAR project (NSF Award #1239758) to support faculty professional development focused on climate change. As a result, the HBCU now has as many as 28 faculty incorporating climate science into their course offerings in programs ranging from education, to business, math, and chemistry.

### ***Plans for the future***

The CEOE Diversity Committee has identified several areas for development in the coming months. We will develop subcommittees, as noted above, to consider the best ways to delineate short and long-term goals to achieve the objectives described here. CEOE is committed to improving diversity across our units at all levels, from students to staff and



faculty. We seek to provide a welcoming campus climate for students in our majors and across UD. The CEOE Diversity committee will continue to engage in conversations to promote diversity improvement with all faculty and staff. We will pursue additional trainings with the Office of Equity and Inclusion to ensure sensitivity and awareness, helping to improve campus climate.

We are actively engaged in developing hiring processes to increase both ethnic and gender diversity among our faculty with the aim of improving the student experience, as students are better able to identify with role models in their instructors. We consider diversity of faculty and staff hires to be among the top priorities. Within the next academic year, we will develop policies and guidelines for hiring in the College to codify these priorities. We are also pursuing long-term budgetary planning to provide the resources needed for nimble hires of diverse candidates. For hiring, we need to consider recruiting faculty whose expertise will attract and retain a diverse student body. For staff, we aim to retain the strong people we already have working in the College, and will pursue career growth and professional development opportunities to achieve this.

To increase diversity of our student body, we will take a multi-faceted approach. As regards retention of existing students, the new Blue Hen Success Collaborative provides a wealth of data on students' eligibility for Pell Grants and First Generation status. We plan to use our access to this information to provide guidance and mentoring to these populations among our various majors. We would like to cement and expand our efforts for recruiting diverse students at the undergraduate level, including through the Associate in Arts program, which reaches a more diverse group of Delaware residents than the general population at UD. Given the small size of our program, recruitment of even a few students may increase representation of underrepresented minority students. For example, in May 2016, students completing the BS in Marine Science included three, who had transferred from Delaware Technical Community College, and made up 23% of their graduating cohort that year. Thus, we plan to expand articulation agreements with Delaware Technical Community College.

At the graduate level, we will continue our excellence in graduate recruitment. We are one of two units on campus to regularly attend SACNAS, and plan to continue these efforts. We will also continue to invest in novel recruitment efforts as described for the summertime REU program above.

Ultimately, we aim to be a strong part of the solution to diversity concerns across the geosciences. By building a pipeline of graduates from our majors, we can help to build a more diverse pool of college graduates working in these areas across academia and the workforce more broadly.

## ***Conclusions***

Improving diversity in CEOE, and in the environmental sciences broadly, must be thought of as a long-term objective. The challenges in the fields related to the Earth, Ocean, and Environment are two-fold; the first regarding broadening awareness of students as to the global significance of these areas of study and long term career paths, and the second with supporting students in their studies and ensuring their success in the workforce. Both of these require long-term efforts to achieve robust and sustainable results.

Over the past year, CEOE has made strong steps toward inclusive excellence by establishing a college-wide diversity statement for faculty hires, engaging with the UD ADVANCE program, hiring staff from diverse backgrounds, and engaging with undergraduate and graduate students, as well as postdoctoral associates to ensure participation and engagement in inclusive excellence. Although this is a good start, more work is required. We recognize the critical importance of community building, which requires the inclusion of students, faculty and staff from diverse backgrounds. While each person hired improves our diversity statistics, a concerted effort to build on these new recruitments and to ensure their active and meaningful involvement in the life of our College is necessary to further our progress, to retain their talent and to enhance recruitment of more diverse students and faculty. Our efforts to establish a sustainable pipeline by developing STEM interest in students at a young age (K-12 years) must continue. Hence, we will increase our outreach efforts to K-12 faculty and students in order to provide opportunities for these students to learn about our fields. A major goal is to increase the diversity of students, who choose UD and CEOE for their undergraduate and graduate studies, and to support them with a welcoming community of faculty and staff when they join us. The efforts we are pursuing with regard to diversity of Faculty and Staff, and the development of a more welcoming community will help with these processes. As a small college, CEOE has the opportunity to make big strides when it comes to its students as well as future faculty and staff hires to assure a diverse workforce for the coming years.

**College of Earth, Ocean, and Environment  
Statement Regarding Diversity**

August 2015

1. Purpose

The College of Earth, Ocean, and Environment is committed to providing a diverse environment for all students, faculty, staff, and visitors.

2. Definition

Diversity is contextual and includes all forms of human difference, including but not limited to: race, gender and gender identification, ethnicity, economic circumstances, 'first generation college', veteran status, sexual orientation, age, nationality, and disabilities.

3. Value

A diverse College community enriches the learning and experiential opportunities for all members, resulting in a more effective educational and working environment.

4. Non-discrimination

The College is opposed to any form of discrimination on grounds of sex, race, religious belief, nationality, ethnicity, sexual orientation, age, or disability.

5. Active Participation

The College recognizes that to be effective, a student and staff diversity statement must be fully institutionalized to the extent that all members and employees of the College have roles and responsibilities to achieve student and staff diversity. All members of the college should be active in the promotion of College diversity including recruitment and retention of members of underrepresented groups and provision of a welcoming, inclusive, and diverse work and learning environment.

6. Committee

A CEOE Committee on Diversity will include members drawn widely from the College community. Members may be drawn - from outside the College in order to provide specialist knowledge or expertise. The Committee will address the following Charge:

*Diversity is contextual. The Committee will advise the Dean on the status and trends in diversity across the college, including but not limited to, all students, faculty, and staff regarding all forms of human difference--diversity of race, ethnicity, gender, disability, gender identification, sexual orientation, age, religion, culture, first-generation-college, and veteran status.*

*The Committee will provide recommendations for systematically enhancing diversity within the College at all levels (students, staff, faculty, etc.).*

*The Committee will recommend appropriate metrics, reporting, and review mechanisms to enhance accountability of all employees, especially supervisors, in increasing diversity within the College.*

## 7. Reporting

The Committee on Diversity will provide minutes of their meetings to CEOE faculty, bi-annual reports to the Dean and College regarding diversification efforts and the profile of our student, faculty, and staff communities within the College.

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