

NAU SES URGE Pod: Demographic Data

NAU and SES undergraduate and graduate students

Publicly available data

Northern Arizona University has public demographic information available for all of the colleges within the university through the office of [Institutional Research and Analysis](#). The demographic information for students (undergraduate and graduate) enrolled in the School of Earth and Sustainability for the past 10 Fall semesters is in the table below. This information and more can be explored further at this website: (<https://www7.nau.edu/pair/reports/AllEnrollmentStudentTrend>).

School of Earth and Sustainability												
IPEDS Ethnicity/Race	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020	19
American Indian/Alaska Native	20	29	33	23	23	29	21	21	20	19		
Asian	8	4	3	2	5	4	9	9	8	11		
Black/African American	5	4	4	3	3	3	6	8	7	8		
Hispanic/Latino	44	50	53	69	83	87	89	106	110	115		
Native Hawaiian/Oth Pac Island	2	2	2	4	4	4	3	0	1	2		
Non-resident Alien (International)	10	13	14	13	16	18	19	11	10	6		
Not Specified	6	4	5	8	9	6	11	17	12	8		
Two or More	15	14	23	37	39	39	45	46	38	36		
White	465	452	449	431	458	470	497	509	507	455		
Total	575	572	586	590	640	660	700	727	713	660		

Overall in Fall 2020, the students (undergraduate and graduate) in our department are predominantly white with about 68% of students identifying as white. 17% of students identified as Hispanic/Latino, making this group the second largest in our department. However, other minority groups are much more underrepresented in our department. Although Flagstaff is home to and neighbors many Indigenous communities, only 2.8% of the student body identifies as Native/Indigenous. 1.6% of students are Asian and only 1.2% of the undergraduates are Black students. The proportion of students identifying as Hispanic/Latino has increased minimally over the 2011-2020 period, whereas the number of students with any other racial/ethnic identities have remained approximately constant.

The SES undergraduate student population demographic distribution for Fall 2020 was very similar to that of the overall SES student population, which makes sense because most of the department's students are undergraduates (87%). Undergraduate students in SES identified as 68% White, 19% Hispanic/Latino, 2.6% Indigenous/Native, 1.7% Asian, and 1.2% Black/African American.

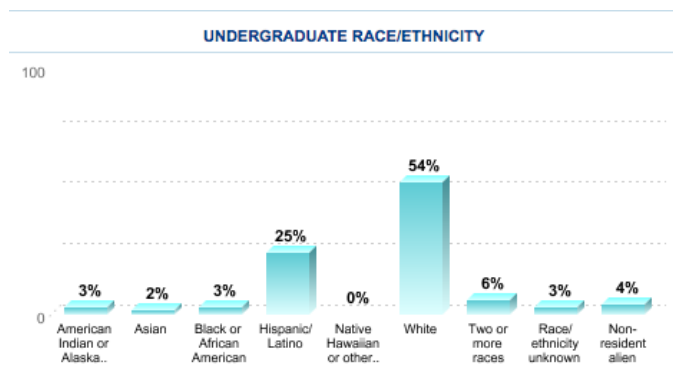
Undergraduate												
School of Earth and Sustainability												
IPEDS Ethnicity/Race	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020	15
American Indian/Alaska Native	17	22	28	17	19	24	19	15	16	15		
Asian	7	4	2	0	3	2	6	9	8	10		
Black/African American	5	4	4	3	3	3	6	8	7	7		
Hispanic/Latino	41	48	52	66	79	84	86	102	104	107		
Native Hawaiian/Oth Pac Island	2	2	2	4	4	4	3	0	1	2		
Non-resident Alien (International)	9	9	11	9	11	11	13	6	5	3		
Not Specified	4	2	1	5	7	3	10	16	12	8		
Two or More	15	14	20	32	36	36	41	43	37	35		
White	397	375	381	354	376	386	416	433	429	389		
Total	497	480	501	490	538	553	600	632	619	576		

In comparison, the SES graduate student population in Fall 2020 was less diverse, with 79% of students identifying as White. A smaller proportion of students identified as Hispanic/Latino (10%); this group is the second largest at the graduate level. 5% and 1% of graduate students identified as Native/Indigenous or Black/African American compared to 2.6% and 1.2% of undergraduates.

Graduate												
School of Earth and Sustainability												
IPEDS Ethnicity/Race	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020	4
American Indian/Alaska Native	3	7	5	6	4	5	2	6	4	4		
Asian	1	0	1	2	2	2	3	0	0	1		
Black/African American	0	0	0	0	0	0	0	0	0	1		
Hispanic/Latino	3	2	1	3	4	3	3	4	6	8		
Non-resident Alien (International)	1	4	3	4	5	7	6	5	5	3		
Not Specified	2	2	4	3	2	3	1	1	0	0		
Two or More	0	0	3	5	3	3	4	3	1	1		
White	68	77	68	77	82	84	81	76	78	66		
Total	78	92	85	100	102	107	100	95	94	84		

This information was challenging to find even though publicly available. Staff and faculty in our department had no idea where to find demographic information for undergraduates. The lack of knowledge about where to access this information illuminates a need for our department and the office of Institutional Research and Analysis to make this information more easily identifiable for our university students, staff and faculty.

Publicly available data for the demographics of all NAU undergraduate students is also available at the following link, which is easier to find with an internet search, but is not disaggregated by department: <https://nces.ed.gov/collegenavigator/?q=nau&s=all&id=105330#programs>. A snapshot of these data for Fall 2019 is included below.



SES graduate student diversity survey

To complement these data, in September 2020 the SES Diversity and Inclusion committee administered a demographic survey to (1) collect information about the demographics of the SES graduate student body and (2) identify areas where improvement is needed to better support our students. Though we have only one year of data from this effort, the intention is to continue with data collection annually.

The survey was distributed via the academic degree program advisors. Respondents were given ~2-4 weeks to respond beginning in early August 2020. The data were presented to program advisors, and then in a department-wide seminar. The survey data are hosted in the SES D&I committee Shared Drive.

50 participants took the survey, or ~50% of the total graduate student population. Respondents were overwhelmingly white (88%), almost all from North America (94%), and primarily female (70%), with 24% of respondents identifying as male and 6% identify as transgender or non-binary. 14% of respondents reported that they felt unsupported by SES faculty because of their gender identity. 22% identified as having a disability, and 18% reported that their disability had a negative impact on their education and/or research. 30% of respondents have a parent/guardian with a high school diploma as the terminal degree, while 8% have parents/guardians with a PhD. 6% reported their stipend can only cover 50% or less of their living expenses, and 53% cannot afford a \$500 emergency bill. 53% of respondents gave the department a score of $\leq 7/10$ for the question "how open do you feel SES is to diversity and inclusion?".

Based on feedback from the community, we will make the following changes to the survey in the future:

1. We will add sexual orientation to the list of demographic and support inquiry questions.
2. We will allow participants to identify what program they participate in.
3. We will include instructions for how first year students should fill out the survey (there were first years who did not want to respond based on their limited time in the department), and will likely offer the survey at the beginning of spring semester, instead of beginning of fall semester.
4. We will ask the question "What D&I initiatives do you want to see implemented?" and provide a list of initiatives for feedback and preferences.

First-Year Learning Initiative and GLG 112 (Geologic Disasters)

Through the NAU First-Year Learning Initiative (FYLI), our department's Diversity and Inclusion (D&I) committee has access to grade distribution data for the course "Geologic Disasters" (GLG 112), which is intended for first year non-majors. Hundreds of students take the course each semester. The available data are disaggregated by racial/ethnic identity, first generation status, and Pell grant status. These data span the last 2-3 years, and are also disaggregated by instructor. Therefore, they are considered sensitive, and are not publicly available. However, the data demonstrate that students who identify as White tend to perform better in the class, compared to students who identify with another racial/ethnic background, first generation college students, and Pell grant recipients. Notably, the data are not disaggregated to determine the racial/ethnic identity of Pell grant recipients or first generation students. Though not publicly available at this time, we hope the data will help motivate inclusive teaching practices and encourage instructors in our department to identify and tackle existing biases in their teaching methods.

Faculty, staff, and other employees

Demographic data for NAU employees are available through the NAU Office of Institutional Research and Analysis, but are not disaggregated by college or department (only by category of employment). We have not found these data, though they were not targeted for the purposes of this deliverable, so they may exist (but are not easy to find).

The data are available at: <https://in.nau.edu/wp-content/uploads/sites/129/2020/06/J-Employees.pdf>

Fall 2019										
IPEDS ETHNICITY/RACE BY JOB CATEGORY	American Indian/ Alaska Native	Asian	Black/ African American	Hispanic/ Latino	Native Hawaiian/ Other Pacific Islander	Non-Resident Alien/ International	Not Specified	Two or More Races	White	TOTAL
Archivists, Curators, and Museum Technicians	0	0	0	0	0	0	0	0	5	5
Business and Financial Operations Occupations	37	5	6	57	1	2	7	18	344	477
Community, Social Service, Legal, Arts, Design, Entertainment, Sports, and Media Occupations	12	9	9	26	3	1	6	8	176	250
Computer, Engineering, and Science Occupations	18	6	3	26	2	17	7	15	302	396
Graduate Assistants	17	10	8	80	0	140	5	20	400	680
Healthcare Practitioners and Technical Occupations	1	0	0	1	0	0	0	2	26	30
Librarians and Student and Academic Affairs and other Education Services Occupations	3	0	0	1	0	0	2	0	30	36
Management Occupations	5	4	5	3	0	0	5	2	102	126
Natural Resources, Construction, and Maintenance Occupations	5	1	1	20	0	0	0	0	50	77
Office and Administrative Support Occupations	14	3	2	33	2	0	3	6	142	205
Postsecondary Teachers	33	74	29	128	5	35	52	30	1,396	1,782
Production, Transportation, and Material Moving Occupations	5	0	1	6	0	0	0	1	27	40
Service Occupations	56	4	5	46	0	3	11	1	87	213
Student and Academic Affairs and Other Education Services Occupations	11	5	7	34	0	2	5	4	181	249
Temporary	30	8	9	32	0	5	6	13	209	312
Total	247	129	85	493	13	205	109	120	3,477	4,878

Seminar speakers

Data are available for the SES seminar speaker series going back to Fall 2014. Data on race/ethnicity and gender were compiled for these seven years (though we are missing data for Spring 2016). However, because we do not formally collect these data from our invited seminar speakers, assumptions were

made while collecting these data, and some aspects of participants' identities are unknown. In the future, we hope to eliminate these uncertainties by collecting these data when inviting speakers.

We have records of 166 invited seminar speakers since Fall 2014. Of these speakers, we are unsure regarding the racial/ethnic identity of 8.4%. 85% of speakers were White, and 6.6% of speakers were Black, Indigenous, or People of Color (BIPOC). The data have yet to be rigorously analyzed, but it appears little progress has been made since 2014 to diversify our speakers; we were not able to identify more than two non-White seminar speakers in any semester. 67% of seminar speakers were male, and 31% were female, only one speaker is non-binary, and we are unsure regarding the gender identity of 2 speakers. These data indicate that White people and men are overrepresented in our seminar series, and provides a useful baseline for improvement in the future. The data are available via the D&I committee.

Comparison to other organizations and the field as a whole

NAU SES student demographics were compared to the School of Earth and Space Exploration (SESE) at the sister university, Arizona State University (ASU) in metropolitan Phoenix. Unlike NAU, ASU demographic information by school and degree level was not publicly available and could only be accessed through ASU affiliation. In the Fall 2020, the ASU undergraduate population in SESE had a smaller proportion of students identifying as white (58%) or Native/Indigenous (0.8%) compared to NAU SES undergraduate students (68% and 2.6%, respectively) and a larger proportion of students identifying as Asian American (2.8%), African American (2.1%) and Hispanic (22.7%). The differences were similar in the graduate student population. Of major interest, ASU had no graduate student identifying as Native/Indigenous compared to 5% at NAU in Fall 2020. This is despite the Tempe Campus, where the ASU SESE is located, sitting on the ancestral homeland of the Akimel O'odham (Pima) and Pee Posh (Maricopa) peoples and despite the ASU student population being primarily in-state (61%). Similar to NAU, the population of graduate students identifying as Hispanic has minimally increased since 2013. In summary, NAU's SES is comparable to ASU's SESE in that they both do not reflect the state's general population demographics but NAU does provide public access to demographic school data compared to ASU which is an improvement.

NAU's SES 2019 demographic was compared to publicly available [occupation data](#) gathered by the American Geoscience Institute (AGI) for the American workforce in 2019. According to the AGI, 5% of environmental scientists and geoscientists identified as Black or African American and 12% as Hispanic despite both groups comprising 13.5 and 18.5% of the general American adult (18-65 years old) population, respectively. The AGI reports a small increase in the proportion of Hispanics since 2005 which mirrors the small increase seen at NAU and ASU. NAU's SES proportion of the undergraduate population identifying as Hispanic is comparable to the field as a whole, but the graduate population proportion of Black/African American and Hispanic students is largely lagging behind.

Public goals on demographics or increasing representation

SES has issued a statement about diversity, equity, and inclusion with goals and action items [here](#). Some of the goals in the statement would be better supported by more extensive and readily available demographic data, in order to evaluate future progress. Some of these goals are as follows:

1. Increasing the number and frequency of invited speakers, advisors, and mentors from underrepresented groups, including bringing professionals into lower-division majors classes;
2. Increasing the inclusion of Indigenous knowledge in our curriculum and invited speakers;
3. Increasing the number of students from underrepresented groups who are enrolled, retained, and graduated from SES programs;
4. Hiring faculty from underrepresented groups, to balance the preponderance of white mentors, supervisors, and others in positions of power.