

Geosciences Diversity and Inclusion Plan
FINAL DRAFT

Mission statement: The Department of Geosciences is committed to enhancing diversity and promoting inclusion at all levels of the department. The department is dedicated to maintaining an organizational and educational climate where differing ideas, abilities, backgrounds, and needs are fostered with opportunities for faculty, staff, and students from divergent experiences to participate and contribute. The Department of Geosciences recognizes that a wide variety of perspectives from all its members are important and necessary components of a diverse and inclusive department and of a genuinely wide-ranging contemporary education.

Background:

The Geosciences program is the oldest STEM discipline at the university, established in 1887. The department offers BS degrees in Geology, Geography, and Earth Sciences; MS degrees in Geography and Geology; and a PhD in Geosciences. It participates in interdisciplinary doctoral degree programs in Environment Dynamics and Space and Planetary Sciences. The department is already very active in diversity and inclusion initiatives. As a result, the program's student diversity has been increasing since the department initiated an aggressive recruitment and mentoring strategy in 2003. For example, in 2009 and 2019 the department hosted the annual meeting of the National Association of Black Geoscientists (NABG) and has established a student chapter of NABG, which has since become one of the most active student chapters in the U.S. Currently, there are 11 students in the organization, and annually 6-11 University of Arkansas students attend the annual technical conference of NABG. University of Arkansas underrepresented minorities (URMs) have successfully transitioned to the geosciences workforce and several have prominent roles in NABG nationally.

In 2010, the University of Arkansas entered into a cooperative agreement with Fort Valley State University (an 1890 Land-Grant HBCU in Fort Valley, GA) to develop 3+2 dual degree programs in Chemistry-Geology and Mathematics-Geology. For this program, FVSU students complete BS degrees in Chemistry or Mathematics in 3 years at FVSU, and then transfer to the University of Arkansas where they complete requirements for a BS degree in Geology in two additional years of study. The department has successfully graduated 4 students from this partnership. An unanticipated benefit of our association with the program at FVSU is matriculation of MS students who complete BS degrees in Geology at another partner institution, Penn State University. To date, 4 students have earned BS Geology degrees at Penn State University then matriculated in the MS Geology program at the University of Arkansas. Three of those students have graduated and are employed in the energy industry and two are active members of NABG. One student was the first Geosciences PhD student in departmental history to earn an NSF Graduate Research Fellowship, and he has since taken full-time employment in the energy sector in Houston.

44 In 2011, the department partnered with the Math, Science, and Engineering Academy (MSEA)
45 at Fort Valley State University. MSEA is a pre-college program that identifies talented URM
46 students in 8th grade and offers them summer enrichment academic programs throughout
47 their high school careers. Currently, the Department of Geosciences partners with the College
48 of Engineering to host rising high school juniors (11th grade) in MSEA each summer for a one-
49 week residential program on the University of Arkansas campus. Students learn about
50 hydrogeology and karst geomorphology of northwestern Arkansas and biofuels synthesis and
51 hydroelectric power generation in the College of Engineering. Sponsorship of the summer pre-
52 college MSEA program is from FVSU, the Fulbright College of Arts & Sciences, the College of
53 Engineering, and the Graduate School and International Education. Annually, student
54 enrollment varies and has ranged from 15 to 32 since 2011.

55

56 The Department of Geosciences also participates in several Research Experience for
57 Undergraduates (REU) programs on the University of Arkansas campus each summer and these
58 have been venues to recruit and retain URMs through our other partnerships.

59

60 Thus, since 2003, the department has developed a full complement of educational
61 opportunities for URMs interested in geosciences degrees and career opportunities, beginning
62 with partnership in a summer pre-college program, undergraduate baccalaureate program,
63 summer REUs, MS geology degree, and PhD in Geology/Geoinformatics, Environmental
64 Dynamics, or Space and Planetary Science (see Appendix).

65

66 Nevertheless, there is still much more that the department could do to increase the
67 participation of diverse groups at the undergraduate, graduate, and faculty levels given that the
68 geosciences are one of the least diverse STEM disciplines. Our intention in creating this
69 Diversity and Inclusion plan is to explore the ways in which the department can create and
70 operationalize opportunities for faculty, staff, and students to increase their awareness of and
71 sensitivity to bias and discrimination as well as finding ways in which the department can
72 increase the inclusion and visibility of underrepresented groups in the department. The plan
73 aims to enhance opportunities for personnel and students to participate in a more diverse
74 community through revising hiring practices, enhancing teaching materials, and more carefully
75 considering the way in which underrepresented groups are made visible in the physical and
76 virtual spaces of the department.

77

78 ***As a first step, the Department created an ad hoc committee for Diversity & Inclusion,***
79 ***composed of faculty (TT and NTT) and staff (spring 2019). This committee was composed of a***
80 ***diverse group, including but NOT LIMITED TO members of underrepresented groups. This ad***
81 ***hoc Committee created a new standing Diversity & Inclusion Committee with a chair and vice***
82 ***chair. The committee will solicit on-going input from students and staff. For example, this***
83 ***summer, following racial unrest across the country, the current chair of the committee has***
84 ***started an informal coffee hour discussion on Fridays for students, staff, and faculty to share***
85 ***experiences, resources, and comments. These have been well attended by departmental***
86 ***members and we have had very constructive conversations. The committee has outlined the***
87 ***following goals and action plans, with a focus on identities that are underrepresented in the***

88 *department or within traditional geosciences fields. These goals were reviewed by the chair*
89 *of the department in consultation with the department as a whole.*

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92 **Goals and Outcomes**

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94 Short-term goals and outcomes:

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96 a. Increase visibility of diverse groups within the department.

97

98 b. Increase participation of diverse geoscientists in department activities such as
99 colloquium.

100

101 c. Increase representation of diversity in the curriculum, especially in introductory
102 classes.

103

104 d. Increase awareness of diversity and inclusion among the faculty/staff and
105 students.

106

107 e. Create a structure to ensure diversity on faculty committees.

108

109 f. Develop an inclusive strategy for departmental social events.

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111 g. Develop a strategy for combating implicit bias against underrepresented groups
112 in the department.

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114 h. Solicit and encourage student/staff input with respect to diversity and inclusion
115 matters.

116

117 Medium term goals

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119 a. Increase diversity in the faculty through strategic hiring.

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121 b. Increase underrepresented groups in the graduate and undergraduate programs
122 through targeted recruiting.

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124 Long term goals

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126 a. Develop funding sources to support faculty and student engagement in diverse
127 research communities.

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129 b. Develop funding sources to support underrepresented groups in the graduate
130 and undergraduate programs.

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132 **Action Plans to be Aligned with Above Principles**

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134 **Action Plan 1**

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136 1. Personalized learning opportunities for faculty, staff, and students

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138 a. The department will require all faculty and staff to attend Diversity & Inclusion
139 training once every three years. This training will include both Implicit Bias
140 Training and Bystander Intervention Training. Training is provided by the
141 University of Arkansas and the department's Diversity & Inclusion Committee will
142 send reminders with links to sign up for training at the beginning of each
143 semester. These reminders will be sent to faculty/staff who are due to undertake
144 training and they will have to confirm with the Diversity & Inclusion Committee
145 that the training was successfully completed.

146

147 b. The department will require all graduate students in teaching and/or supervisory
148 roles to attend Diversity & Inclusion training in their first semester with the
149 department. If the student's tenure lasts longer than three years, they will be
150 required to refresh that training in their fourth year.

151

152 c. Department staff will keep records of faculty/staff and graduate student
153 attendance at the required training to be included in the annual Diversity and
154 Inclusion report.

155 d. A list of national and regional training opportunities will be provided on the
156 department's Diversity and Inclusion webpage (see 7c). Financial and logistical
157 support will be offered to permit faculty/staff and students to take advantage of
158 these opportunities (see 4).

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162 **Action Plan 2**

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164 2. Opportunities for engagement with people of diverse backgrounds.

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166 a. The department's partnership with Fort Valley State University (GA) shall be
167 continued to ensure the success of the 3+2 dual degree program in MATH-GEOL
168 which enables 2-3 students of color to transfer to the U of A each year to
169 complete the GEOS portion of their degree.

170

171 b. The department's strong relationship with NABG (the National Association of
172 Black Geoscientists) shall be continued by participating in the organization's
173 annual meeting and sponsoring a U of A chapter of the organization.

174

- 175 c. The department and faculty advisers will encourage and support faculty/staff
176 and graduate students to attend and participate in diversity events at national
177 and regional conferences and to reach out to students in underrepresented
178 populations.
179
- 180 d. The department will encourage faculty and students to attend conferences
181 targeted towards diverse research populations; targeted conferences would
182 include NABG, SACNAS, AWG, Geoscience Alliance, and oSTEM
183
- 184 e. The department will create a Diversity and Inclusion webpage (See 7c) to
185 maintain a list of events, conferences, and conference special events that
186 provide opportunities for engagement with diverse groups.
187
- 188 f. Diversity & Inclusion activity should be rewarded in the annual review process.
189 Faculty should include any such activities in their annual review summaries to be
190 considered by the personnel committee to potentially increase the Service
191 component score of their annual evaluation.
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195 **Action Plan 3**
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- 198 3. Efforts to ensure inclusion and diversity as a universal value of the campus community
199 through active measures.
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- 201 a. All faculty will be encouraged to examine their classes for opportunities to
202 increase the diversity of representation in their curriculum and instruction. For
203 example, including researchers from diverse backgrounds in their reading lists
204 and lectures and including perspectives of and impacts on diverse populations
205 when discussing environmental, social, economic, and political issues relevant to
206 Geosciences.
207
- 208 b. Diversity & Inclusion activity should be rewarded in the annual review process.
209 Faculty should include any such activities in their annual review summaries to be
210 considered by the personnel committee to potentially increase the Teaching
211 component score of their annual evaluation.
212
- 213 c. The department, through the new standing committee for Diversity & Inclusion,
214 will create an ongoing seminar program to train students in professional
215 development; this program will be specifically structured to encourage
216 professional development in underrepresented groups, including first generation
217 undergraduates.
218

- 219 d. The department will continue to deemphasize the use of standardized testing for
220 admissions to graduate programs with the goal of eventually removing the GRE
221 requirement for all but DAF/DDF candidates.
222
- 223 e. All faculty and staff search committees will discuss candidate information with
224 the Chair of the Diversity & Inclusion Committee to ensure that
225 underrepresented groups are given adequate representation in short lists,
226 specifically the top ten and top three lists that are used to screen the most
227 qualified candidates for faculty positions.
228
- 229 f. Faculty searches will request applicants to include a diversity statement/plan
230 within their application package.
231

232 **Action Plan 4**

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- 234 4. A budget that reflects a commitment to inclusion and diversity.
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- 236 a. The Diversity & Inclusion Committee will submit a budget, no later than April
237 15th of each year, outlining necessary expenditures for the following academic
238 year.
239
- 240 b. Department leadership will work with the external advisory board to raise
241 foundation funds to support underrepresented students.
242
- 243 c. The department will dedicate global campus funds (from teaching online classes)
244 towards supporting faculty and student travel to regional and national
245 conferences that focus on underrepresented groups and towards supporting
246 travel to local, regional, and national training events. An anticipated budget will
247 be approximately \$5,000 to be reviewed annually upon D&I committee request
248 and subject to available funds.
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252 **Action Plan 5**

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- 255 5. Access to a network of resources to support an inclusive climate.
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- 257 a. The department, through the Diversity & Inclusion Committee, will build and
258 maintain a database of Geosciences-related teaching materials that enhance
259 diversity and inclusion in the curriculum. These resources will be made available
260 to all faculty to encourage the creation of more diverse teaching materials.
261

262 b. The Diversity & Inclusion Committee will also create a calendar of events,
263 focusing on diversity-related conferences and training opportunities, to facilitate
264 faculty participation in national and regional diversity opportunities.

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267 **Action Plan 6**

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270 6. Opportunities to enhance intercultural competency and diversity.

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273 The geosciences are well suited to enhance intercultural competency and diversity due to
274 the global nature of the discipline. The department plan to enhance intercultural
275 competency and diversity in the following ways:

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277

- 278 a. Faculty will be strongly encouraged to seek information of historical and cultural
279 significance to disseminate to students as an integral part of all department field
280 activities. Students shall be expected to be cognizant of this information and record
281 it in graded field books.

282
283

284 Most field trip sites are places that we visit multiple times. The departmental D&I
285 committee, with the help of others from the department, shall construct an archive
286 of information for all commonly visited sites. That information will include cultural
287 perspective on the sites. For example, the geology field camp class drives to
288 Montana every summer. We stop at various sites consistently and make
289 observations about geology along the way. We will also include cultural perspective
290 for these sites and expect the students to record this information in their graded
291 field books. For example, we stop at Red Rocks Amphitheater outside Denver, CO
292 and discuss the geologic history of the site. Red Rocks is also an important cultural
293 site for the indigenous people. It has been occupied since Paleolithic times and the
294 site was sacred to the Ute Tribe of Colorado. We will explain how the unique geology
295 of the Front Range affected the development of indigenous society in the area, how
296 the geology influenced the Gold Rush, and resulted in conflicts between the Native
297 people that used the area and the encroaching Euro-Americans. This is just one
298 example and an online file will be kept for the sites per class for instructors to access
299 and incorporate into their classes.

300
301

- 302 b. The department will identify a departmental hourly work study student to help the
303 D&I Committee and relevant faculty collect the above information and keep the
304 archive current. The cost of such activities will be included in the annual budget
305 submitted by the D&I Committee to the Chair.

306
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- 308 c. Geography includes classes that have explicitly cultural, political, and social content
309 (World Regional Geography; Human Geography; Political Geography; Urban
310 Geography; Geography of Europe; Geography of the Middle East; Geography of

306 Eurasia). These classes are already structured in a way that emphasizes the
307 contributions of diverse geographers in the readings/content and that highlight
308 issues that are of importance to diverse communities. For example, Urban
309 Geography includes a focus on the impacts of gentrification on inner city
310 neighborhoods in US cities; Geography of Europe includes a component on
311 immigration and refugees in Europe, as well as a section on the diverse nature of
312 European cities.

313
314 d. Faculty will be encouraged to update all syllabi and course materials to include and
315 emphasize diverse figures in the discipline, especially for the required core courses
316 of General Geology, Human Geography, World Regional Geography and Earth
317 Science. For example, the work of Yi-Fu Tuan in behavioral geography and Marilyn
318 Raphael in climatology; Marie Tharp in the discovery of plate tectonics or James W.
319 Harrington in the development of regional labor markets in urban geography.
320 Alternatively, geologic or geographic influences on cultural history may be included
321 in introductory courses. For example, the Black Belt of the Southeastern US is named
322 for the rich black soils developed on Cretaceous chalk deposits. These soils were the
323 principle locus of plantation agriculture and slavery in the US and remain the
324 counties with the highest population of African Americans in the US Southeast.

325
326 e. All faculty will be encouraged to increase the diversity of research voices and experts
327 in their class materials as well as to increase discussions of material that engages
328 with the experiences of diverse communities. Efforts to engage in this material
329 should be noted in the curriculum development section of annual reviews, for
330 consideration by the department Personnel Committee and will be rewarded as part
331 of the teaching component. Faculty will be encouraged to share this material in an
332 online file that can be accessed by the rest of the department.

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335 **Action Plan7**

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338 7. Efforts to ensure the unit's space reflects a commitment to inclusion and diversity.

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340 a. The department will coordinate with Facilities Management to create hallway
341 displayed departmental posters for research and diversity that feature noted
342 geoscientists and include representatives from a variety of underrepresented
343 groups.

344

345 b. The D&I Committee will work with other units in the building to increase the
346 visibility of diverse faculty, researchers, and students in shared spaces – for
347 example working with the Honors College to create a display space for diversity
348 outside the primary lecture auditorium in Gearhart Hall.

349

350 c. The department's website will be updated to include the diversity mission
351 statement regarding diversity and inclusion, which will be prominently displayed
352 on the main page, emphasizing the department's ongoing commitment to
353 creating an inclusive and diverse community in Geosciences. In addition, the
354 Diversity & Inclusion Committee will work with the department technology staff
355 to create a specific Diversity and Inclusion webpage for the department. This
356 page will showcase faculty and students in the department who are doing work
357 that engages diverse communities (for example, work on the geography of voter
358 suppression, or work on climate change hazards in communities of color).
359 However, it will also showcase the diverse group of scientists and students
360 working in the department. The page will also serve as a host site for Diversity
361 and Inclusion resources that are available either at the University of Arkansas or
362 through national and international geosciences organizations.
363

364 In collaboration with Department faculty, staff, and students the D&I Committee will develop a
365 list of inclusive post-colloquium venues for social events and make the list available on the
366 Department DEI website. Inclusivity in this case should include a commitment to ensuring that
367 most department social events are family and non-alcohol friendly.
368

369 **Action Plan 8**

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371 8. Commitment to establish and maintain professional practices and conduct reflective of
372 an inclusive University of Arkansas community.
373

374 a. The Department will create a standing committee for Diversity & Inclusion,
375 composed of faculty, staff, and graduate students. This committee should be
376 composed of a diverse group, including but NOT LIMITED TO members of
377 underrepresented groups. This Committee will be appointed each year by the
378 Chair of the Department in consultation with members of the previous year's
379 committee.
380

381 b. The Diversity and Inclusion Committee will conduct a department-wide
382 diversity/inclusion climate survey at the beginning of **every** academic year. This
383 survey will be administered to all faculty/instructors and staff as well as to
384 majors/minors and graduate students in the geography, geology, and earth
385 science undergraduate degrees; students in the Geography and Geology MS
386 programs; and all PhD students in the Geosciences, Space and Planetary Science,
387 and Environmental Dynamics programs, who are supervised from within the
388 Department of Geosciences. The results of that survey will be reported in the
389 annual Diversity and Inclusion report and will be used to modify the Diversity
390 and Inclusion plan as appropriate.
391

392 c. The Diversity & Inclusion Committee will develop diversity guidelines for critical
393 departmental committees, for example, Personnel and faculty search

394 committees. These guidelines will be advisory to the Department Chair and may
395 be included in a revised Diversity and Inclusion plan at the end of the first year
396 and adherence to these guidelines may be assessed and included in the annual
397 Diversity and Inclusion report.

398
399 d. The department will establish a peer-review process to assess teaching to offset
400 implicit bias against underrepresented groups in Purdue evaluations. Faculty and
401 instructors will be able to choose to participate in this process (it will not be
402 mandatory) and will be able to choose their evaluator from a list of three or four
403 sub-discipline-appropriate choices along with a member from Wally Cordes
404 Teaching and Faculty Support Center. Teaching will be assessed in person, by the
405 appropriate evaluator at least twice a semester – once for evaluation, then
406 feedback, and re-assessment. In addition, the peer review teaching evaluations
407 will be compared to the Purdue evaluations for each instructor and discrepancies
408 will be included in the Diversity and Inclusion report and faculty/staff annual
409 reports each year as a bench-mark of implicit bias in the evaluation process.

410
411 e. Faculty should include any such activities in their annual review summaries to be
412 considered by the personnel committee to potentially increase the Teaching
413 component score of their annual evaluation.

414
415 f. Any member of the department with an issue related to diversity and inclusion
416 may consult the Diversity & Inclusion Committee to discuss the perceived bias
417 with advice for further official action.

418
419 g. The department will establish and make public the guidelines for infractions to
420 be reported to the D&I committee. Reports can be made to the Chair and Vice-
421 Chair of the D&I committee, or to the Department Chair or Vice Chair.
422 Complaints that go directly to the Chair or Vice-Chair of the department will be
423 referred back to the D&I committee assuming that there are no conflicts of
424 interest. If the complainant is not satisfied by the action of the D&I committee
425 the complaint may then be referred to the Chair of the Department.

426
427
428 Each of these measures, individually and collectively is designed to increase the awareness and
429 commitment of the Department of Geosciences and its personnel to the ongoing development
430 of increased diversity and inclusion in our programs. To that end, the Diversity and Inclusion
431 Committee will submit an annual report that includes input from members of the department
432 (students, faculty, and staff) to the Department Chair each May 15 and to Fulbright College,
433 detailing the following:

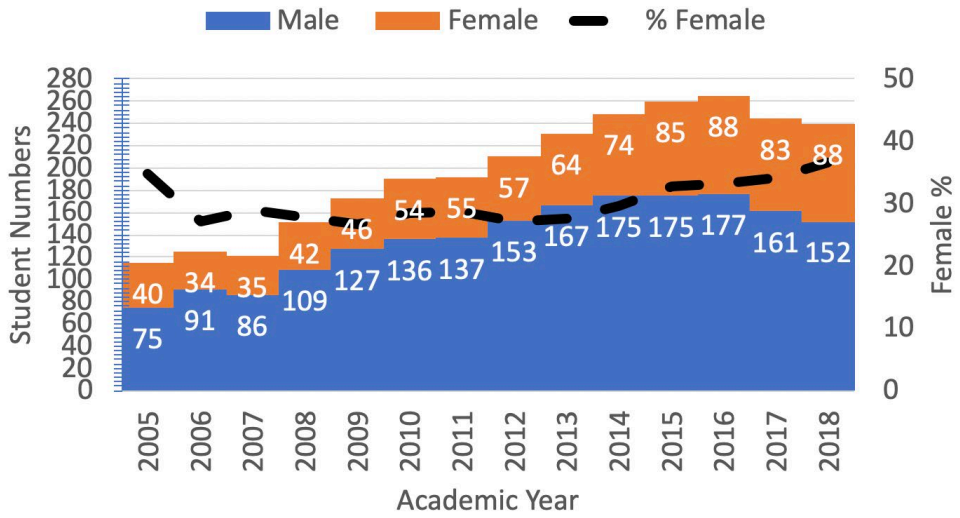
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435 a. Reporting process – the process will include a means for engaging students,
436 faculty (TT and NTT), and staff in discussions, strategies, and implementation
437 efforts via post-climate survey town halls.

- 438 b. The results of the annual climate survey.
- 439 c. The progress made on each of the action plans.
- 440 d. Reasons for lack of progress, if appropriate.
- 441 e. Suggestions for modifying any one of the action plans on the basis of information
- 442 from the climate survey and/or previous year's experience with operationalizing
- 443 the plan.
- 444 f. Records of faculty/staff and graduate student training.
- 445 g. Updated demographics for the department's students and faculty/staff
- 446 populations.
- 447 h. Guidelines for committee composition and assessment of committee diversity
- 448 after the first year.
- 449

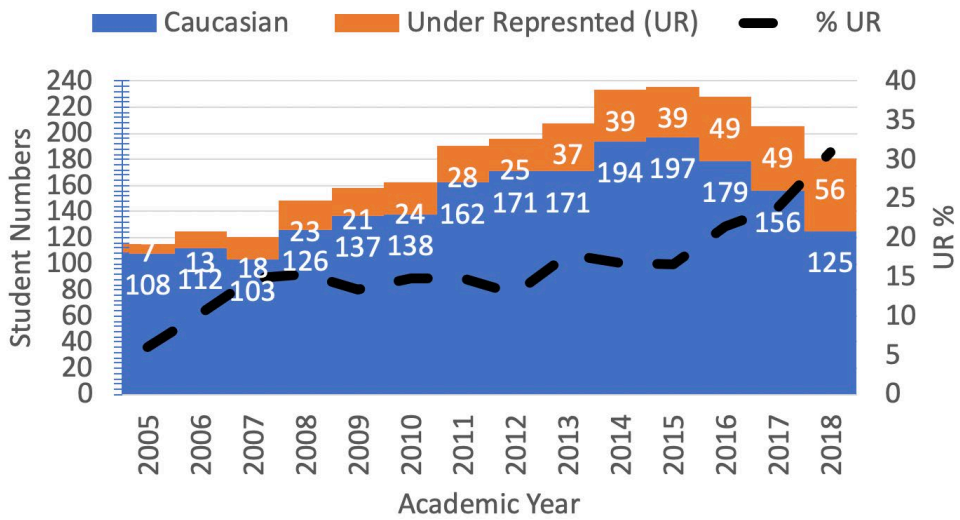
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Appendix A – Geosciences Students Demographics 2005-2018

Geoscience Total Enrollment Gender Breakdown



Geoscience Total Enrollment Diversity Breakdown



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