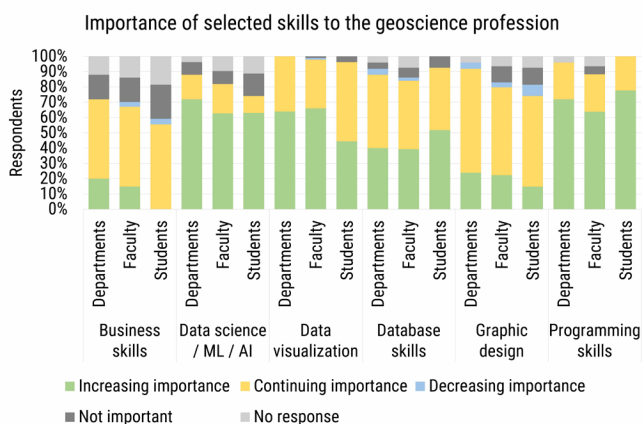


Academic faculty and student skill development during the pandemic

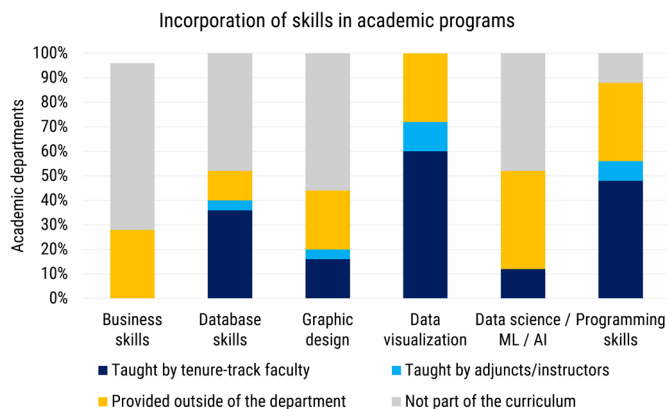
In February 2021, we surveyed participants in the Geoscience COVID-19 Survey about their perspectives on the importance of business skills, database skills, graphic design, data visualization, data science, and programming to the geoscience profession and their proficiency with these skills. Within academia, over two-thirds of academic departments and faculty reported that all of these skills are of continuing or increasing importance to the profession, and over half of students reported the same. A higher percentage of departments than faculty or students indicated that business skills, graphic design, data visualization, and data science were important, and a higher percentage of students indicated the importance of database skills and programming than did departments or faculty. The top three skills that academic departments and faculty indicated were of increasing importance to the profession were software programming, machine learning, artificial intelligence, and data science, and database management skills.

were taught within the department (40% database skills, 20% graphic design, 12% data science). Although departments indicated that business skills were not taught in the department, 28% indicated that these skills were taught outside of department. In addition, over half of departments indicated that business skills and graphic design skills were not part of the curriculum, and 48% of departments indicated that database management and development and data science skills were not part of the curriculum.



Credit: AGI; data from AGI's Geoscience COVID-19 Survey

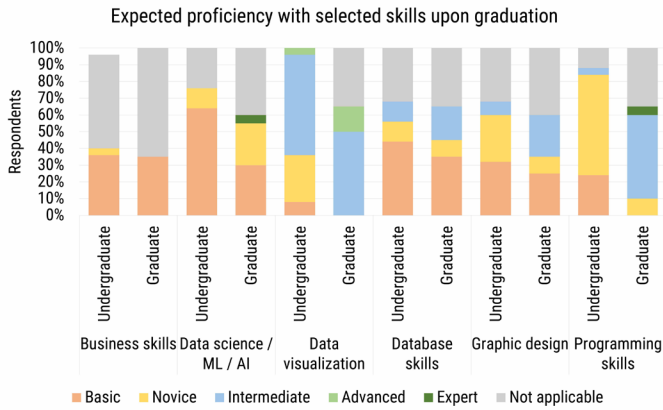
Of these selected skills, 72% of departments indicated that data visualization and 56% of departments indicated that programming skills were taught within the department, while less than half of departments indicated that the other skills



Credit: AGI; data from AGI's Geoscience COVID-19 Survey

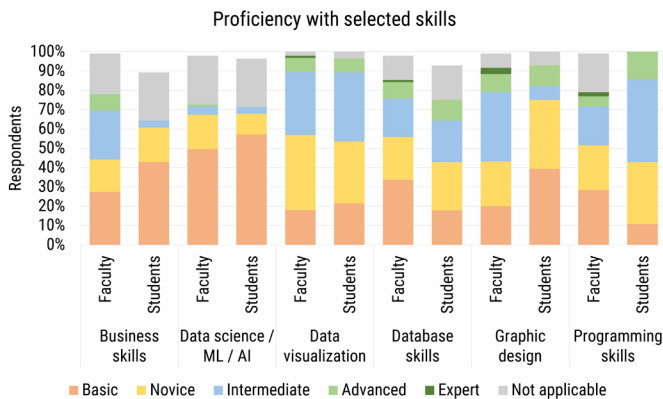
Nearly two-thirds of departments expect that by graduation, undergraduate and graduate students have an intermediate or higher level of proficiency with data visualization skills. Furthermore, just over half of departments expect their graduate students to have at least an intermediate level of proficiency with programming skills, and nearly two-thirds of departments expect their undergraduate students to have at least a novice level of proficiency upon graduation. Less than one-third of departments expected their students to have at least intermediate proficiency with database management, graphic design, data science, and business skills.

of the survey are the views of the American Geosciences Institute and not those of the National Science Foundation.



Credit: AGI; data from AGI's Geoscience COVID-19 Survey

When asked about their level of proficiency, a higher percentage of faculty than students reported that they had at least an intermediate level of proficiency with business skills (34% vs. 4%) and graphic design (48% vs. 18%). The percentage of faculty and students reporting at least intermediate proficiency with data science skills (5% vs. 4%), data visualization skills (41% vs. 42%), and database management skills (29% vs. 32%) were similar. A higher percentage of students than faculty indicated that they had at least an intermediate level of proficiency (57% vs. 27%) in programming skills.



Credit: AGI; data from AGI's Geoscience COVID-19 Survey

We will continue to provide current snapshots on the impacts of COVID-19 on the geoscience enterprise throughout the year. For more information, and to participate in the study, please visit: www.americangeosciences.org/workforce/covid19

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