What coursework, degree requirements and/or experience would you suggest students have to help them get an internship/employment with your company or agency?
(2018/2019 GeoCareers Panel Luncheon)

Brandy Barnes (Draper Aden Associates): The basic requirement for our geology positions, which may include technicians, environmental scientist, or staff geologist, is a specific degree for the role you are applying for. Most of the young professional geologists in our company have at minimum of a BS in geology. As roles vary, so does the degree, but opportunities online will specify. Field experience, field camp, technical and non-technical writing skills, applicable geology courses (i.e. geotechnical engineering, environmental engineering, geophysics), and strong computer skills (i.e. GIS, AutoCAD, excel) are always a plus and highly recommended. I also recommend developing strong communication and leadership skills either through presentations, networking, or being active in geoscience organizations. This will make a huge difference at the interviewing stage!

Terry Briggs (Newmont Goldcorp): I cannot emphasize strongly enough, that field experience is a crucial aspect of being a geoscientist. This is a highly regarded aspect within the geological community as it brings together a lot of the knowledge from petrology, sedimentology, structure and other disciplines into the field, even if you don't end up doing field work, you will be better able to interpret the work of others. Secondly, familiarity with key software, especially GIS packages (i.e. ArcGIS), and even better, 3D modelling software. Many companies offer discounts or trial packages for students. Thirdly, non-geoscience subjects help round-out your skillset, be this mathematics, business or environmental to help round out your education. Outside of subject choices, active participation in geoscience societies, community engagement or running a workshop or other event will demonstrate organization and leadership skills.

J.P. Dube (Chesapeake Energy): Get the best foundation in geoscience you possibly can. Mineralogy, petrology, structure, sed/strat, geophysics, hydrogeology and tectonics are a great place to start. You can always add on to your education, but it will be assumed that you have a great foundation. Field experience, research, petrophysics, petroleum systems are all nice additions to a resume. Also, make sure you are filling your time with experience, you don't want to appear idle.

Alicia Kahn (Chevron Energy Corporation): MS or PhD required for earth scientists. BS for engineers. The more internship experiences the better, lab work, field work...basically anything that is a geologically related workflow. ArcGIS and seismic software are good tools to know. If you can't get in with a major, go smaller, or go to service companies. They will give invaluable and interesting hands on experience and often more leadership opportunities should you then decide to transition elsewhere.

Greg Liggett (Bureau of Land Management): As others have said, a broad base of knowledge and skills make an applicant attractive. Degrees are usually required for professional-level positions. I would also stress that you should work hard to improve your writing skills. Writing is such a fundamental part of my job, and really every professional position, that you should practice, practice, practice.

Bruce Schumacher (Forest Service): Have some background in National Environmental Policy Act, specifically read through some simple Environmental Assessments, or an Environmental Impact Statement in an area that interests you. NEPA comes up so often in federal land management, understanding some basics, even terminology and acronyms, will put you a step ahead.

Also, learn to utilize your geological knowledge in a broad based perspective on Ecosystem Management.
In the Forest Service, any understanding of wildland fire is also helpful. Need not be directly related to jobs/skills as a firefighter, but rather the effects that wildfire has on the ecosystem (geology/soils/habitat/watersheds, etc .)

Limaris (Lima) Soto (National Park Service): I recommend doing different internship experiences so that you can get an idea of the things you want to do with your career. The more experience you get in different career fields the higher your chances of being hired. I also recommend learning ArcGIS and programming and doing courses or certifications in project management as it relates to all fields.

Lisa White (UC Museum of Paleontology): Although paleontology is a very specialized field, it continues to be informed by other disciplines and sub-fields within geology and biology. In addition to courses in sedimentary geology and paleoecology, taking biology courses in evolution, vertebrate anatomy and/or invertebrate zoology are beneficial. Paleontology is also becoming increasingly quantitative and analytical so taking courses in MATLAB or R script are also helpful.

Bret Dixon (Anadarko Petroleum): Good fundamentals of geology or geophysics, an understanding of tectonics and structure, stratigraphy and sedimentology, petroleum systems and basin evolution, undergraduate research during bachelors, attend industry sponsored events or trips, previous part-time or full time work with an industry service company (e.g. mudlogging, wireline, operations geology, well steering, seismic acquisition or processing, core handling and sampling, geochemical sampling and analysis, etc.), previous geoscience industry internships, and a wide variety of personal growth and discovery related life experiences.

Leslie Hsu (U.S. Geological Survey): The USGS employs a very diverse range of scientists. Each ad generally asks for a degree in one of the physical or biological sciences, so beyond the normal degree requirements, I would just recommend to take the course topics that inspire you. A large part of what we do is deliver our scientific results to various stakeholders in other agencies or organizations, so having experience in scientific and plain-language communication is always a plus.

Jason Kenworthy (National Park Service): Every position will list the specific coursework and experience requirements—make sure to pay attention to those and ensure that your resume makes it clear that you meet those requirements. In general, NPS geoscientists are multidisciplinary so a variety of geoscience and physical science is helpful. Most positions have

practical resource-management component (i.e., what information will help a superintendent make a decision about managing a resource) rather than a purely research or academic focus. Park-based positions may also benefit from land management or outdoor recreation coursework, particularly if there will be an interpretation (public outreach) component to the position. Having GIS experience is really helpful because nearly all resource

management information in the NPS is geospatial (or will be). The requirements and qualifications for physical science positions (1300 series) with the federal government are available on the OPM website. Note that there are relatively few people with the title "Geologist" (GS-1350) in the NPS. People working on geoscience projects may also be classified as Physical Scientists (GS-1301) or Hydrologists (GS-1315) for example. Positions at the lower GS (general schedule) levels can be hired with a bachelor's degree positions at the GS-09 level and above often require master's degrees.

Because positions in parks can involve a lot of field work, having professional or personal experience hiking, camping, or with other outdoor activities is often a bonus. Similarly having first aid, CPR, wildland fire fighting ("Red Card") certification, or experience with ATV or boat operation, horseback riding, public speaking, and foreign language fluency, can all make a difference when picking among otherwise equally qualified people. While moving to a different geographic location may not be something you can do, it is much easier to get hired if you are willing to move to a different area for a position. Likewise, if you are looking for to start a career, look at some of the smaller NPS areas for opportunities, they typically have fewer applicants than Yellowstone or Yosemite, and once you are "in the door" it is easier to move to other positions and other parks.

Ken Ridgway (Purdue University): Curiosity and dedication are key factors for success in research.

Todd Thompson (Indian Geological and Water Survey): Colleges and universities typically test on what you know, but we hire on what you know how to do. It is important to get a wide variety of field and laboratory experience. Go on every fieldtrip that fits your schedule regardless of the class or geological subject – always sit beside the fieldtrip leader so you can ask questions. Volunteer to help a classmate in the field or lab, and just don't go through the motions. Learn why you are doing what you are doing, other ways it can be accomplished, and question everything. Familiarity with a number of geological specialties is very important and a focus on getting a job done.