

# Nuclear Engineering Enrollments and Degrees Survey, 2019 Data

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## Survey Universe

The 2019 survey includes degrees granted between September 1, 2018 and August 31, 2019, and enrollments for fall 2019. Thirty-four nuclear academic programs were surveyed with all but two programs responding. The enrollments and degrees data include students majoring in nuclear engineering or in an option program equivalent to a major. Some nuclear engineering programs have indicated that health physics option enrollments and degrees are also reported in the health physics enrollments and degrees survey.

## Degree Data

**Bachelor's Degrees.** The number of B.S. degrees in 2019 awarded by nuclear engineering programs is nearly the same as in 2018, higher than levels reported in 2016 and 2017, nearly 5 percent lower than the number awarded in 2015 and continues the recent trend of over 600 B.S. degrees awarded that began in 2012 ([Table 1](#)). The number of B.S. degrees awarded in 2019 remains significantly above the levels reported in the previous decade and is 40 percent higher than the number reported for 2010. Nuclear engineering majors accounted for 91 percent of all B.S. degrees ([Table 2](#)).

**Graduate Degrees.** The number of master's degrees awarded by nuclear engineering programs in 2019 increased by 21.5 percent from 2018 and is 12 percent higher than the number awarded in 2017. The number of M.S. degrees awarded in 2019 was the highest number reported since 2016 and is more than 4 percent greater than the number reported in 2010. The number of doctorate degrees awarded in 2019 is nearly identical to the number awarded in 2018, continuing a trend of higher degree awards since 2008 (with an exception of a one-year decrease in 2015.) The number of Ph.D.s awarded in nuclear engineering in 2019 is the second highest reported since 1966, the first year for which survey data was collected ([Table 1](#)). Nuclear engineering majors in 2019 accounted for 93 percent of the M.S. degrees and 98 percent of the Ph.D. degrees ([Table 2](#)).

TABLE 1 | Nuclear Engineering Degrees, 2010-2019

| Year | B.S. | M.S. | Ph.D. |
|------|------|------|-------|
| 2019 | 622  | 316  | 194   |
| 2018 | 623  | 260  | 195   |
| 2017 | 619  | 282  | 170   |
| 2016 | 621  | 355  | 161   |
| 2015 | 652  | 363  | 147   |
| 2014 | 627  | 322  | 169   |
| 2013 | 655  | 362  | 147   |
| 2012 | 610  | 333  | 119   |
| 2011 | 524  | 277  | 113   |
| 2010 | 443  | 303  | 113   |

Source: Oak Ridge Institute for Science and Education.

**TABLE 2 | Nuclear Engineering Degrees by Curriculum, 2019**

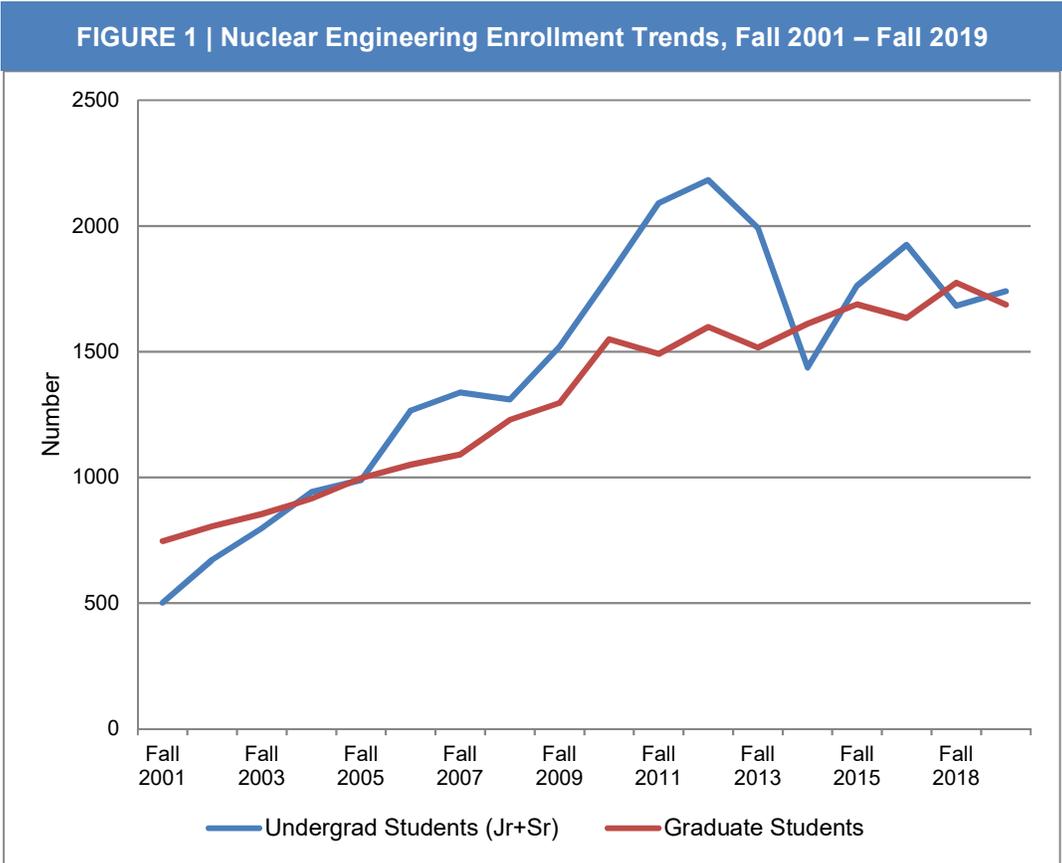
| Curriculum                 | B.S. | M.S. | Ph.D. |
|----------------------------|------|------|-------|
| Nuclear Engineering Major  | 569  | 294  | 190   |
| Nuclear Engineering Option | 53   | 22   | 4     |

Source: Oak Ridge Institute for Science and Education.

**Enrollment Trends and Short-Term Outlook for Degree Trends**

**Undergraduate Students.** In 2019, the enrollment of junior and senior nuclear engineering undergraduate students was approximately 1740, an increase of about 3 percent from the enrollment level reported in 2018, 10 percent less than reported in 2016 and 1 percent lower than the level reported for 2015 (Figure 1). Undergraduate enrollments reported for 2019 is the fourteenth highest undergraduate enrollment reported since 1971, and appears to be recovering from recent declines. The number of bachelor’s degrees earned over the next year or two should continue to remain close to 600 in 2020.

**Graduate Students.** Graduate enrollment in 2019 was nearly 1,690 students, 5 percent lower than graduate enrollments reported in 2018 and nearly identical to graduate enrollments reported for 2015 (Figure 1). Graduate enrollments continue their uneven advance from the low levels experienced twenty years ago and are at their seventh highest level since 1971. The continued strength in graduate enrollment indicates that the total number of graduate degrees awarded in the near future is likely to remain near the levels of the prior two years.



NOTE: Enrollment data for fall 2017 was not collected in the 2018 survey.  
 Source: Oak Ridge Institute for Science and Education.

## Employment or Other Post-Graduation Status

Data on employment/post-graduation status for those graduating in 2019 are shown in [Table 3](#). The unknown/not reported category accounts for 37 percent of the B.S.-level graduates, 27 percent of the M.S. graduates, and 28 percent of the Ph.D.-level graduates. Excluding the unknown/not reported, continued study was the largest post-degree activity for the B.S.-level and M.S.-level graduates. For Ph.D. graduates, U.S. Department of Energy contractor employment was the largest category.

For B.S. graduates reporting their post-graduation plans, employment in the U.S. military, active duty had the largest number followed by those reporting employment in the nuclear utility sector. The next three largest sectors are other nuclear-related employment, still seeking employment, and DOE contractor employment. The number reported for DOE contractor employment of new B.S. graduates is one of the highest reported over the last two decades followed by the number reported (21) in 2015 and 2010. The number reported for the U.S. military, active duty, is the highest number reported since 1996 (66).

For M.S. graduates reported as employed, DOE contractor employment, other nuclear-related employment, nuclear utility employment, U.S. military, active duty, and other employment accounted for the majority of employment plans. In recent years, the number of new M.S. graduates reporting plans for active military duty has increased from 4 in 2006 to 28 in 2015, falling somewhat to 24 in 2018, and 16 in 2019. The share of new M.S. graduates reporting planned employment by nuclear utilities, other nuclear-related organizations, and DOE contractors accounted for over 3 out of every 5 M.S. graduates seeking employment in 2019. New to this year's survey, 6 new M.S. graduates reported plans for employment in medical facilities.

For Ph.D. graduates, DOE contractor employment, federal government employment, other nuclear-related employment, and other business employment accounted for 14 or more of employed graduates. The number reported for DOE contractor employment is 3 more than the number reported in 2018 and represents the highest reported over the last two decades. The number of 2019 Ph.D. graduates still seeking employment fell by two-thirds from the level reported in 2018.

| TABLE 3   Employment or Other Post-Graduation Status, 2019 |            |            |            |
|--|------------|------------|------------|
|  | B.S.       | M.S.       | Ph.D.      |
| Continued Study/Postdoctoral Appointment                   | 144        | 90         | 10         |
| Academic Employment  | 3          | 3          | 19         |
| Federal Government Employment                              | 11         | 9          | 21         |
| DOE Contractor Employment                                  | 25         | 36         | 37         |
| State and Local Government Employment                      | 3          | 0          | 0          |
| Medical Facilities   | 1          | 6          | 3          |
| Nuclear Utility Employment                                 | 46         | 19         | 1          |
| Other Nuclear-Related Employment                           | 35         | 31         | 14         |
| Other Business Employment                                  | 18         | 6          | 14         |
| Foreign (non-U.S.) Employment                              | 4          | 2          | 10         |
| U.S. Military, Active Duty                                 | 65         | 16         | 5          |
| Other Employment   | 10         | 10         | 2          |
| Still Seeking Employment                                   | 28         | 4          | 4          |
| Unknown/Not Reported                                       | 229        | 84         | 54         |
| <b>TOTALS</b>  | <b>622</b> | <b>316</b> | <b>194</b> |

Source: Oak Ridge Institute for Science and Education.

**TABLE 4 | Nuclear Engineering Degrees, 2019, by Academic Institution**

| State         | Name of Institution                                 | Degrees<br>(Sept. 1, 2018 – Aug. 31, 2019) |            |            |
|---------------|---|--|------------|------------|
|               |   | B.S.                                       | M.S.       | Ph.D.      |
| CA            | University of California, Berkeley                  | 18   | 19         | 11         |
| CO            | Colorado School of Mines                            | 0  | 3          | 1          |
| FL            | University of Florida                               | 13   | 5          | 6          |
| GA            | Georgia Institute of Technology                     | 35   | 16         | 4          |
| ID            | Idaho State University                              | 16   | 10         | 2          |
| IL            | University of Illinois at Urbana-Champaign          | 28   | 13         | 8          |
| IN            | Purdue University                                   | 22   | 10         | 1          |
| KS            | Kansas State University                             | 8  | 1          | 3          |
| MA            | Massachusetts Institute of Technology               | 12   | 14         | 14         |
| MA            | University of Massachusetts Lowell                  | 12   | 4          | 1          |
| MD            | United States Naval Academy                         | 23   | 0          | 0          |
| MI            | University of Michigan                              | 21   | 23         | 19         |
| MO            | Missouri University of Science and Technology       | 35   | 2          | 6          |
| NC            | North Carolina State University                     | 32   | 15         | 19         |
| NM            | University of New Mexico                            | 18   | 13         | 6          |
| NV            | University of Nevada, Las Vegas                     | 0  | 1          | 2          |
| NY            | Rensselaer Polytechnic Institute                    | 32   | 2          | 6          |
| NY            | United States Military Academy at West Point        | 21   | 0          | 0          |
| OH            | Air Force Institute of Technology                   | 0  | 6          | 6          |
| OH            | Ohio State University                               | 0  | 3          | 5          |
| OH            | University of Cincinnati                            | 0  | 1          | 0          |
| OR            | Oregon State University                             | 44   | 29         | 4          |
| PA            | Penn State University                               | 44   | 21         | 7          |
| PA            | University of Pittsburgh                            | 30   | 3          | 0          |
| SC            | South Carolina State University                     | 5*   | 0          | 0          |
| SC            | University of South Carolina                        | 0  | 6          | 1          |
| TN            | University of Tennessee                             | 40   | 26         | 13         |
| TX            | Texas A&M University                                | 80   | 16         | 17         |
| TX            | University of Texas                                 | 0  | 7          | 1          |
| UT            | University of Utah                                  | 0  | 3          | 3          |
| VA            | Virginia Commonwealth University                    | 11   | 20         | 8          |
| VA            | Virginia Polytechnic Institute and State University | 0  | 2          | 5          |
| WI            | University of Wisconsin-Madison                     | 22   | 22         | 15         |
| <b>Totals</b> |   | <b>622</b>                                 | <b>316</b> | <b>194</b> |

\*Degree data for South Carolina State University as reported on their Nuclear Engineering Program website.

Source: Oak Ridge Institute for Science and Education.

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