

2020 Squared



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2020 Squared





From the CEO

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Square \skwer\ n 1: a plane figure with four equal sides and four right angles 2: the product of a number multiplied by itself *vb* 1: to regulate or adjust by or to some standard or principle adj 1: denoting a unit of measurement equal to the area of a square whose side is of the unit specified 2: level or parallel 3: properly arranged, in good order 4: just, fair, honest adv 1: in a straightforward or honest manner 2: at right angles

NCEES: Who we are

Exams

Interstate mobility

Licensure



From the CEO

The mission of NCEES is to advance licensure for engineers and surveyors in order to safeguard the health, safety, and welfare of the public. Squared is one way we do that by providing a straightforward account of our fiscal year through data. The 2019–20 fiscal year brought unprecedented challenges to our organization due to the impact of COVID-19. You will note significant differences in the exam, mobility, and licensure data in comparison to the data in last year's edition of Squared. Exam administration delays and virtual volunteer meetings were among many of the changes we made throughout 2020 to continue to advance our mission.

All of the information represents the most recent NCEES fiscal year, which began October 1, 2019, and ended September 30, 2020.

We hope *Squared* is a resource that will help you better understand licensure and its importance to our lives every day.

B. David Cox

I'm pleased to introduce the 2020 issue of Squared, the official NCEES source for engineering and surveying licensure statistics. This publication highlights data that can help inform the national conversation about the path to licensure.

NCEES Chief Executive Officer



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The National Council of Examiners for Engineering and Surveying (NCEES) is a national nonprofit organization dedicated to advancing licensure for engineers and surveyors. Licensed professional engineers and professional surveyors have met specific qualifications in education, exams, and work experience. They are obligated to work in a manner that safeguards the health, safety, and welfare of the public. Since its creation in 1920, NCEES has worked to facilitate interstate mobility for professional engineers and surveyors by providing its member boards and licensees with services that promote uniformity in licensure laws throughout the United States. These services include uniform exams, model laws and rules, NCEES Records, and NCEES Credentials Evaluations.







The members of NCEES are the engineering and surveying licensing boards from all 50 states, the District of Columbia, Guam, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands.

Some member boards represent only engineering or surveying. The majority of them represent both. Other boards are multiprofessional and regulate additional professions, such as architecture. One board (Illinois SE) regulates structural engineering as a separate licensure category.

Most licensing board members are appointed by their governors. The makeup of board

membership varies according to a jurisdiction's statutes (required number of professional engineers, professional surveyors, public members, etc.).

Our members









Exam development

The NCEES exams are developed by licensed engineers and surveyors who volunteer to write and evaluate exam questions in conjunction with NCEES procedures and accepted psychometric standards. In early 2020, a pandemic was officially declared for COVID-19. The pandemic had a significant impact on computer-based testing (CBT), pencil-and-paper exam administrations, and exam development volunteer meetings. The NCEES board of directors took a number of actions to help contain and slow the spread of the virus. These actions supported the NCEES vision and mission to safeguard the health, safety, and welfare of the public.

COVID-19 impact on exams

- NCEES canceled all face-to-face exam development meetings beginning March 15.
- NCEES canceled the April 2020 pencil-andpaper exam administration.
- PE exams that are administered only once per year were moved to the October 2020 administration.
- Pearson VUE test centers, which administer NCEES computer-based exams, closed in March and began opening with social distancing protocols in May, including reducing the testing center capacity.

As a result of these cancellations and closings, 2019-20 usage numbers for all exams were less than those of the same period in 2018-19:





Transition from pencil-and-paper to CBT 2019-20

NCEES began transitioning the Principles and Practice of Engineering (PE) exams to computer-based testing in 2017-18. The conversion schedule is now over the halfway point. The year 2024 is the new target date for completing the NCEES exam transitions to CBT.

For more information, visit www.ncees.org/cbt.

| | CBT examinees | Pencil-and-paper examinees | Total |
|----|---------------|-------------------------------|--------|
| FE | 38,396 | 0 | 38,396 |
| FS | 1,142 | 0 | 1,142 |
| PE | 2,614 | 14,862 | 17,476 |
| PS | 596 | 0 | 596 |
| SE | 0 | 1,063 | 1,063 |







| Year | Exam | Availability |
|------|--|--|
| 2020 | PE Fire Protection | Single day, October 20, 2021 |
| 2020 | PE Industrial and Systems | Single day, October 20, 2021 |
| 2020 | PE Mechanical: HVAC and Refrigeration | Year round, starting April 1, 2020 |
| 2020 | PE Mechanical: Machine Design and Materials | Year round, starting April 1, 2020 |
| 2020 | PE Mechanical: Thermal and Fluid Systems | Year round, starting April 1, 2020 |
| 2020 | PE Electrical and Computer: Power | Year round, starting December 1, 2020 |
| 2021 | PE Agricultural and Biological Engineering | Single day, October 20, 2021 |
| 2021 | PE Electrical and Computer: Computer Engineering | Single day, October 20, 2021 |
| 2021 | PE Electrical and Computer: Electronics, Controls, and Communications | Single day, October 20, 2021 |
| 2021 | PE Mining and Mineral Processing | Single day, October 20, 2021 |

| Year | Exam | Availability |
|------|---|-----------------------|
| 2022 | PE Architectural Engineering | Single day (date TBD) |
| 2022 | PE Control Systems | Single day (date TBD) |
| 2022 | PE Metallurgical and Materials | Single day (date TBD) |
| 2022 | PE Naval Architecture and Marine | Single day (date TBD) |
| 2022 | PE Civil: Construction | Year round |
| 2022 | PE Civil: Geotechnical | Year round |
| 2022 | PE Civil: Structural | Year round |
| 2022 | PE Civil: Transportation | Year round |
| 2022 | PE Civil: Water Resources and Environmental | Year round |
| 2024 | PE Structural Engineering exam (SE) | TBD |

NCEES fast-tracked the PE conversion schedule due to COVID-19 impacts on exam administration. All PE Civil exams will transition from pencil-andpaper to CBT testing one year earlier than originally scheduled.



FE pass rates

EESFA

FE

The Fundamentals of Engineering (FE) exam is designed for recent graduates and students who are close to completing an undergraduate degree in engineering. Passing it is an important first step in the engineering licensure process.

| | | Overall t | akers | | AB | Takers w ET bache | ith EAC/ lor's degr | ee | Other takers | | | | |
|----------------------------|---------------|-----------|--------|-----------|--------|----------------------|------------------------|-----------|--------------|-----------|--------|-----------|--|
| | First time Re | | Rep | peat Fi | | time | Repeat | | First time | | Rep | eat | |
| | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | |
| Chemical | 1,738 | 73% | 200 | 32% | 1,534 | 74% | 168 | 32% | 204 | 69% | 32 | 31% | |
| Civil | 11,455 | 66% | 5,643 | 33% | 8,483 | 69% | 4,193 | 34% | 2,972 | 59% | 1,450 | 31% | |
| Electrical and Computer | 3,613 | 65% | 1,145 | 35% | 2,680 | 69% | 768 | 37% | 933 | 56% | 377 | 30% | |
| Environmental | 1,639 | 75% | 395 | 41% | 1,151 | 76% | 262 | 46% | 488 | 73% | 133 | 32% | |
| Industrial and Systems | 351 | 66% | 50 | 44% | 311 | 68% | 25 | 44% | 40 | 58% | 25 | 44% | |
| Mechanical | 8,114 | 75% | 1,002 | 42% | 6,765 | 77% | 713 | 45% | 1,349 | 64% | 289 | 34% | |
| Other Disciplines | 2,290 | 70% | 761 | 30% | 1,665 | 73% | 461 | 35% | 625 | 62% | 300 | 21% | |

Other takers include examinees who do not hold a bachelor's degree from an EAC/ABET-accredited program or who did not provide bachelor's education information during exam registration.

Number of FE examinees by testing window

The FE exam has four testing windows. The comparison of the 2018–19 testing windows to the 2019–20 testing windows illustrates the COVID-19 impact on the April–June 2020 testing window. The July–September 2020 testing window reflects an increase in the number of FE examinees as Pearson VUE test centers reopened with social-distancing protocols and reduced testing center capacity.

January-March
 July-September
 October-December





TOP 10 Universities by FE exam volume

Many schools recognize the value of licensure and encourage their students to take the FE during their senior year or soon after graduation. Engineering positions at all levels of industry and government increasingly require licensure. Getting on the licensure path early puts engineers in a position to succeed professionally.



PE pass rates

The Principles and Practice of Engineering (PE) exam is designed for engineers who have gained at least four years of work experience in their respective discipline. NCEES member boards require candidates to pass it as part of the licensure process.

| | Overall takers | | | Taker | s with EAC/AB | ET bachelor's d | egree | Other takers | | | | |
|--|-------------------|-----------|------------|-----------|---------------|-----------------|------------|--------------|--------|-----------|--------|-----------|
| | First time Repeat | | First time | | Repeat | | First time | | Repeat | | | |
| | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate |
| Agricultural and Biological | 0 | 0 | ο | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Architectural Engineering | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Chemical | 363 | 65% | 57 | 28% | 293 | 66% | 43 | 30% | 70 | 61% | 14 | 21% |
| Civil: Construction | 680 | 61% | 669 | 36% | 551 | 62% | 511 | 38% | 129 | 58% | 158 | 29% |
| Civil: Geotechnical | 535 | 66% | 362 | 35% | 357 | 66% | 253 | 35% | 178 | 67% | 109 | 36% |
| Civil: Structural | 1,531 | 63% | 724 | 41% | 1,127 | 66% | 490 | 41% | 404 | 56% | 234 | 40% |
| Civil: Transportation | 1,510 | 70% | 1,029 | 45% | 1,250 | 72% | 840 | 48% | 260 | 64% | 189 | 33% |
| Civil: Water Resources and Environmental | 1,585 | 71% | 895 | 46% | 1,302 | 72% | 763 | 47% | 283 | 66% | 132 | 45% |
| Control Systems | 252 | 66% | 45 | 33% | 172 | 66% | 21 | 33% | 80 | 65% | 24 | 33% |
| Electrical and Computer: Computer Engineering | 35 | 54% | 8 | 0% | 27 | 56% | 6 | 0% | 8 | 50% | 2 | 0% |

Other takers include examinees who do not hold a bachelor's degree from an EAC/ABET-accredited program or who did not provide bachelor's education information during exam registration.

| PE pass | | | | | | | | | | | | |
|---|--------|-----------|----------|-----------|--------|------------------|------------------|-----------|--------|-----------|--------|-----------|
| rates continued | | Overal | l takers | | Та | kers with EAC/AI | BET bachelor's d | legree | | Other | takers | |
| | First | time | Re | peat | F | irst time | Repeat | | First | time | Repeat | |
| | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate |
| Electrical and Computer: Electronics, Controls, and Communications | 154 | 66% | 44 | 50% | 100 | 65% | 28 | 57% | 54 | 69% | 16 | 38% |
| Electrical and Computer: Power | 1,110 | 50% | 726 | 26% | 844 | 50% | 527 | 27% | 266 | 52% | 199 | 26% |
| Environmental | 515 | 69% | 83 | 42% | 361 | 71% | 62 | 45% | 154 | 62% | 21 | 33% |
| Fire Protection | 210 | 55% | 90 | 29% | 141 | 66% | 52 | 25% | 69 | 33% | 38 | 34% |
| Industrial and Systems | 0 | 0 | o | 0 | 0 | 0 | 0 | 0 | 0 | 0 | o | 0 |
| Mechanical: HVAC and Refrigeration | 1,315 | 72% | 256 | 38% | 1,095 | 73% | 187 | 41% | 220 | 68% | 69 | 30% |
| Mechanical: Machine Design and Materials | 924 | 69% | 153 | 39% | 775 | 70% | 117 | 38% | 149 | 60% | 36 | 42% |
| Mechanical: Thermal and Fluids Systems | 1,014 | 71% | 219 | 34% | 807 | 71% | 170 | 35% | 207 | 72% | 49 | 31% |
| Metallurgical and Materials | 58 | 78% | 9 | 33% | 44 | 91% | 3 | 0% | 14 | 36% | 6 | 50% |
| Mining and Mineral Processing | 42 | 67% | 30 | 60% | 40 | 68% | 23 | 61% | 2 | 50% | 7 | 57% |
| Naval Architecture and Marine | 0 | 0 | o | 0 | 0 | 0 | 0 | 0 | 0 | 0 | o | 0 |
| Nuclear | 11 | 55% | 5 | 20% | 7 | 57% | 3 | 33% | 4 | 50% | 2 | 0% |
| Petroleum | 228 | 63% | NA | NA | 190 | 65% | NA | NA | 38 | 50% | NA | NA |
| Software | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

PE pass rates vs. experience (verified education)

Examinees with four years of engineering experience after graduation have the greatest probability of success on the PE exam. Pass rates for examinees with fewer than or more than four years experience are lower, typically in proportion to the length of time from the four-year mark. The data shown is based on experience calculations for the examinees for whom NCEES has verified graduation dates.





SE pass rates

The PE Structural Engineering (SE) exam is a professional engineering exam designed for engineers who practice in jurisdictions that license structural engineers separately from other professional engineers. This 16-hour exam has separate vertical and lateral components to test an examinee's ability to safely design buildings or bridges.

Average age of examinees by exam type

The average age of examinees illustrates that licensure is a multiyear process that requires commitment. By meeting the high exam and experience requirements after graduation, licensure candidates show that they are competent to practice in a way that protects the public.

FE PE SE

| | | Overall | takers | | Ta | kers with bachelor | EAC/AB | ET | Other takers | | | | |
|--|--------------------------|-------------------|--------|-----------|-------------------|-----------------------|--------|-------------------|--------------|-----------|--------|-----------|--|
| | Fir | First time Repeat | | | First time Repeat | | | First time Repeat | | | eat | | |
| | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | |
| Structur lateral forces: bridges | al 20 | 40% | 42 | 60% | 14 | 36% | 29 | 59% | 6 | 50% | 13 | 62% | |
| Structur lateral forces: building | al 240 :s | 33% | 238 | 28% | 180 | 34% | 180 | 28% | 60 | 28% | 58 | 28% | |
| Structur vertica forces: bridges | al 30 | 43% | 20 | 25% | 23 | 48% | 15 | 33% | 7 | 29% | 5 | 0% | |
| Structur vertica forces: building | al I 292 Is | 42% | 181 | 18% | 226 | 41% | 120 | 21% | 66 | 44% | 61 | 13% | |



Other takers include examinees who do not hold a bachelor's degree from an EAC/ABET-accredited program or who did not provide bachelor's education information during exam registration.

Since 2009, the NCEES Engineering Education Award has promoted understanding of the value of licensure and encouraged partnerships between the engineering profession and education. A grand prize of \$25,000 and seven \$10,000 awards are presented each year to EAC/ABETaccredited college engineering programs for engaging their students in collaborative projects with licensed engineers.

The SE exam does not include 2020 data due to the cancellation of the April 2020 exam administration.

| 2018 | 2019 | 2020 |
|------|------|------|
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EES FAC

FS pass rates

The Fundamentals of Surveying (FS) exam is designed for recent graduates and students who are close to completing an undergraduate degree in surveying. Passing it is an important first step in the surveying licensure process.

| Average age |
|--------------|
| of examinees |
| by exam type |

While the average age of surveying examinees has been fairly steady over the past five years, the number of examinees taking the FS and PS exams has decreased. NCEES is addressing this trend by focusing on national brand and image, education, and recruitment and mentorship of the next generation of surveyors.

| F3 F5 |
|-------|
|-------|

| | | Overall | takers | | Ta ANSA | kers with C-ABET ba | EAC/ETA achelor's | AC/ degree | Other takers | | | | |
|----|-------------------|-----------|--------|-----------|------------|------------------------|----------------------|---------------|--------------|-----------|--------|-----------|--|
| | First time Repeat | | | | First | time | Rep | oeat | First | time | Repeat | | |
| | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | |
| FS | 740 | 52% | 402 | 35% | 218 | 67% | 72 | 42% | 522 | 46% | 330 | 34% | |

PS pass rates

The Principles and Practice of Surveying (PS) exam is designed for surveyors who have gained at least four years of work experience. NCEES member boards require candidates to pass it as part of the licensure process.

| | | Overall | takers | | Ta ANSA(| kers with C-ABET ba | EAC/ETA achelor's | \C/ degree | Other takers | | | | |
|----|-------------------|-----------|--------|-----------|-------------|------------------------|----------------------|---------------|--------------|-----------|--------|-----------|--|
| | First time Repeat | | | | First | time | Repeat | | First time | | Repeat | | |
| | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | Volume | Pass rate | |
| PS | 418 | 73% | 178 | 51% | 158 | 81% | 56 | 43% | 260 | 68% | 122 | 55% | |

Other takers include examinees who do not hold a bachelor's degree from an EAC/ETAC/ANSAC-ABETaccredited program or who did not provide bachelor's education information during exam registration.



The NCEES Surveying Education Award recognizes surveying and geomatics programs that best reflect the NCEES mission of advancing surveying licensure in order to safeguard the health, safety, and welfare of the public. A grand prize of \$25,000, three \$15,000 awards, and three \$10,000 awards are presented to surveying and geomatics programs.

EES FA

Interstate mobility

One of the primary purposes of NCEES is to improve interstate mobility of licensure. It is committed to making the licensure process easier for its member boards, professional engineers and surveyors, and licensure candidates.

NCEES advances interstate mobility by providing uniform, national exams; model laws and rules; and the Records Program and Credentials Evaluations services that facilitate the process of getting licensed in multiple jurisdictions.

NCEES has enhanced these services by introducing a customer management system that gives students, examinees, and licensees access to all NCEES services in one place: MyNCEES. When someone establishes a free account, he or she has a passport to all NCEES services for different stages of licensure. Students and engineer/surveyor interns can register for exams. Examinees can check their exam results. And licensees can track continuing professional development, establish an NCEES Record, and have their credentials evaluated.



NCEES Records Program

The NCEES Records Program helps professional engineers and surveyors become licensed in multiple states. An NCEES Record includes most of the materials needed to apply for comity licensure. These include college transcripts, licenses, exam results, employment verifications, and professional references. A Record is transmitted electronically each time the Record holder applies for a license, which saves time, simplifies the application process, and makes it faster and easier for engineers and surveyors to become licensed in additional states. During the 2019–20



year, NCEES had 38,928 transmittals.

The online application includes five sections: education information, exam and license verification, work experience, professional references, and questions regarding the status and history of someone's license. There is no charge to complete the application process and no annual renewal fee.

Record holders can request transmittals through their MyNCEES account. The first transmittal is \$175. All subsequent transmittals are \$75 each.



31.96%

education courses have been logged.



NCEES Credentials **Evaluations**

U.S. licensing boards generally require licensure candidates with degrees from non-ABET-accredited programs to have their education evaluated. Most of these candidates are from other countries. NCEES Credentials Evaluations provides a valuable service to help boards ensure that candidates are qualified academically for licensure. When it conducts an evaluation, NCEES compares the candidate's college-level education against the NCEES Engineering or Surveying Education Standard.

As the number of ABET-accredited programs outside the United States has increased in recent years, so has interest in NCEES exams being administered internationally. NCEES currently has exam administration agreements with foreign entities in Canada, Egypt, the Emirate of Sharjah, Japan, Qatar, Saudi Arabia, South Korea, Taiwan, and Turkey.

Exams administered internationally:

Г Д Д Б Б Р Е exams

TOP **Countries by** number of Credentials Evaluations

applications

Most licensure candidates who apply for an NCEES Credentials Evaluation are from other countries, but candidates with degrees from U.S. programs that are not ABET-accredited also use the service. Below are the countries with the highest number of applications last year.



Licensure

U.S. surveying licensure was established in 1891 in California, and U.S. engineering licensure was established in 1907 in Wyoming. As more states enacted similar legislation over the next decade, U.S. licensing boards began to see a need for a national council to help improve uniformity of laws and to promote interstate mobility of licensure. NCEES was created in 1920 for these reasons. While the work to fulfill the mission continues, NCEES took the time in 2020 to celebrate its founding as well as its various efforts throughout the last 100 years to advance licensure for engineers and surveyors. Today, all 50 states, the District of Columbia, Guam, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands regulate the practice of engineering and surveying.

Each year, NCEES surveys its 69 member boards for the number of engineering and surveying licensees in their jurisdictions. Below are the numbers of engineers and surveyors per jurisdiction as reported by the individual boards in 2020. Licensees who are licensed in multiple states are included in the numbers for each jurisdiction where they are licensed. Many states also track the number of state resident licensees versus out-of-state licensees; those are reported as resident and nonresident in the charts below.

| | | Engi | neers | Surv | eyors | Engineers and Surveyors (dual licensees) | |
|------------------|-------|----------|-------------|----------|-------------|---|-------------|
| | State | Resident | Nonresident | Resident | Nonresident | Resident | Nonresident |
| | AK | 2,520 | 2,864 | 302 | 103 | Not tr | acked |
| | AL | 5,499 | 10,555 | 650 | 471 | Not tr | acked |
| $\left(\right)$ | AR | 2,533 | 6,929 | 459 | 254 | 96 | |
| | AZ | 7,058 | 14,145 | 914 | 712 | Not tr | acked |
| $\left(\right)$ | CA | 68,744 | 26,750 | 3,371 | 625 | Not tr | acked |
| | CO | 14,527 | 13,064 | 1,045 | 612 | 97 | 35 |

| | Engi | Engineers | | Surveyors | | nd Surveyors censees) | |
|-------|---------------------------|--------------------------|----------|-------------|----------|--------------------------|--|
| State | Resident | Nonresident | Resident | Nonresident | Resident | Nonresident | |
| СТ | 3,475 | 7,760 | 477 | 175 | 120 | 20 | |
| DC | 7,5 | 543 | 12 | 21 | 3 | 3 | |
| DE | 1,152 | 6,028 | 72 | 186 | Not tr | acked | |
| FL | 22,826 | 19,989 | 2,115 | 390 | Not tr | acked | |
| GA | 8,322 | 14,079 | 916 | 296 | Not tr | acked | |
| GU | 350 | 438 | 10 | 8 | 13 | 57 | |
| ні | 3,196 | 3,967 | 165 | 32 | Not tr | acked | |
| IA | 2,716 | 7,517 | 191 | 143 | 84 | 15 | |
| ID | 2,541 | 5,392 | 246 | 350 | 13 | 7 | |
| IL | 11,602 P.E. 1,285 S.E. | 9,314 P.E. 2,258 S.E. | 847 | 299 | Not tr | acked | |
| IN | 4,661 | 8,824 | 623 | 213 | 104 | 15 | |
| KS | 4,593 | 8,433 | 316 | 309 | 64 | 19 | |
| КҮ | 3,986 | 10,215 | 717 | 654 | 266 | 76 | |
| LA | 6,491 | 11,600 | 572 | 226 | 157 | 14 | |
| МА | 6,894 | 8,137 | 583 | 168 | 108 | 21 | |
| MD | 21,028 | | 711 | | Not tr | acked | |
| МЕ | 1,936 | 4,586 | 360 | 136 | Not tr | acked | |

| | Engineers | | Surv | eyors | Engineers and Surveyors (dual licensees) | |
|-------|-----------|-------------|----------|-------------|---|-------------|
| State | Resident | Nonresident | Resident | Nonresident | Resident | Nonresident |
| МІ | 20,282 | | 8 | :11 | Not tr | acked |
| MN | 7,277 | 6,632 | 447 | 124 | 37 | 9 |
| мо | 8,067 | 11,611 | 658 | 334 | Not tr | acked |
| MS | 2,248 | 8,632 | 527 | 452 | 245 | 47 |
| мт | 2,127 | 4,084 | 200 | 192 | 32 | 14 |
| NC | 12,733 | 15,817 | 1,789 | 576 | 289 | 50 |
| ND | 1,173 | 4,608 | 140 | 347 | Not tracked | |
| NE | 2,588 | 6,030 | 182 | 148 | 8 | 7 |
| NH | 6,1 | 64 | 232 | 102 | Not tracked | |
| NJ | 8,006 | 9,753 | 564 | 178 | 141 | 22 |
| NM | 2,057 | 6,983 | 238 | 295 | 78 | 38 |
| NMI | 24 | 160 | 5 | 8 | Not tr | acked |
| NV | 2,944 | 9,133 | 285 | 387 | 22 | 25 |
| NY | 15,621 | 15,842 | 1,098 | 313 | 65 | |
| ОН | 11,682 | 12,998 | 1,328 | 327 | Not tracked | |
| OK | 3,590 | 8,791 | 306 | 297 | 47 | 15 |

| | Engineers | | Surv | eyors | Engineers and Surveyors (dual licensees) | |
|-------|-----------|-------------|----------|-------------|---|-------------|
| State | Resident | Nonresident | Resident | Nonresident | Resident | Nonresident |
| OR | 4,647 | 6,476 | 504 | 174 | 111 | 21 |
| PA* | 28,108 | | 1,7 | 93 | Not tracked | |
| PR | 5,050 | 745 | 262 | 29 | 79 | 5 |
| RI | 857 | 4,412 | 90 | 80 | 12 | 3 |
| sc | 5,324 | 12,032 | 517 | 368 | 87 | 23 |
| SD | 1,031 | 3,819 | 157 | 310 | Not tr | acked |
| TN | 13,869 | | 1,0 | 77 | Not tracked | |
| тх | 38,448 | 20,918 | 2,118 | 286 | 344 | 16 |
| UT | 11,7 | 82 | 72 | 29 | 10 |)3 |
| VA | 11,903 | 17,488 | 983 | 453 | 140 | 44 |
| VI | 32 | 23 | 2 | 4 | Not tr | acked |
| VT | 710 | 3,192 | 108 | 81 | Not tracked | |
| WA | 13,663 | 11,655 | 731 | 285 | 52 | |
| WI | 6,730 | 7,893 | 704 | 387 | Not tracked | |
| wv | 1,663 | 7,778 | 458 | 392 | Not tr | acked |
| WY | 1,176 | 6,290 | 148 | 196 | 36 | 23 |

*Numbers last reported in 2017

Number of U.S. Licenses Since 1937

(includes multistate licensees)

| Year | Engineering licensees | Resident licensees | Nonresident licensees | Year | Engineering licensees | Resident licensees | Nonresident licensees |
|------|--------------------------|--|--------------------------|------|--------------------------|-----------------------|--------------------------|
| 1937 | 46,812 | 43,484 | 3,328 | 1950 | 159,759 | 134,133 | 25,626 |
| 1938 | 57,850 | 54,147 | 3,703 | 1951 | 167,414 | 139,214 | 28,200 |
| 1939 | 62,406 | 57,712 | 4,694 | 1952 | 176,533 | 148,239 | 28,294 |
| 1940 | 67,286 | 61,616 | 5,670 | 1953 | 184,655 | 151,459 | 33,196 |
| 1941 | 67,817 | 59,467 | 8,350 | 1954 | 191,553 | 158,146 | 33,407 |
| 1942 | No pro | oceedings issued in No annual meeting | 1942— | 1955 | 201,633 | 162,048 | 39,585 |
| 1943 | 72,804 | 63,497 | 9,307 | 1956 | 214,357 | 170,857 | 43,500 |
| 1944 | 73,532 | 62,154 | 11,378 | 1957 | 226,371 | 179,669 | 46,702 |
| 1945 | No pro | oceedings issued in No annual meeting | 1945— | 1958 | 237,244 | 182,973 | 54,271 |
| 1946 | 92,905 | 78,851 | 14,054 | 1959 | 246,279 | 185,866 | 60,413 |
| 1947 | 114,698 | 97,965 | 16,733 | 1960 | 259,707 | 193,603 | 66,104 |
| 1948 | 130,620 | 110,813 | 19,807 | 1961 | 270,859 | 203,152 | 67,707 |
| 1949 | 153,277 | 131,318 | 21,959 | 1962 | 280,088 | 209,130 | 70,898 |

| Year | Engineering licensees | Resident licensees | Nonresident licensees | Year | Engineering licensees | Resident licensees | Nonresident licensees |
|------|--------------------------|-----------------------|--------------------------|------|--------------------------|-----------------------|--------------------------|
| 1963 | 287,056 | 213,453 | 73,603 | 1977 | 475,387 | 400,380 | 75,007 |
| 1964 | 298,282 | 217,462 | 80,820 | 1978 | 502,184 | 297,000 | 205,000 |
| 1965 | 311,839 | 213,484 | 98,355 | 1979 | 516,354 | 316,976 | 199,378 |
| 1966 | 322,165 | 218,047 | 103,118 | 1980 | 545,000 | 332,000 | 213,000 |
| 1967 | 337,298 | 241,381 | 95,919 | 1981 | 549,000 | 331,000 | 218,000 |
| 1968 | 350,731 | 242,175 | 108,556 | 1982 | 575,000 | 338,000 | 237,000 |
| 1969 | 361,877 | 245,999 | 115,878 | 1983 | 577,000 | 344,000 | 233,000 |
| 1970 | 374,206 | 249,076 | 125,130 | 1984 | 581,000 | 340,000 | 241,000 |
| 1971 | 385,120 | 279,688 | 105,432 | 1985 | 586,000 | 339,000 | 247,000 |
| 1972 | 393,725 | 285,148 | 108,577 | 1986 | 596,000 | 343,000 | 253,000 |
| 1973 | 408,286 | 288,014 | 120,272 | 1987 | 602,000 | 338,000 | 264,000 |
| 1974 | 433,404 | 318,470 | 133,934 | 1988 | 622,000 | 360,000 | 262,000 |
| 1975 | 434,297 | 325,132 | 109,165 | 1989 | 652,516 | 380,989 | 271,527 |
| 1976 | 447,005 | 349,518 | 97,489 | 1990 | 609,267 | 339,106 | 270,161 |

| Year | Engineering licensees | Resident licensees | Nonresident licensees | Year | Engineering licensees | Resident licensees | Nonresident licensees |
|------|--------------------------|-----------------------|--------------------------|------|--------------------------|-----------------------|--------------------------|
| 1991 | 627,032 | 354,444 | 272,588 | 2006 | 710,619 | 434,582 | 276,037 |
| 1992 | 652,410 | 377,755 | 274,655 | 2007 | 719,967 | 461,941 | 258,026 |
| 1993 | 641,383 | 360,619 | 280,764 | 2008 | 750,927 | 426,222 | 324,705 |
| 1994 | 638,238 | 414,275 | 223,963 | 2009 | 765,197 | 456,218 | 308,979 |
| 1995 | 641,041 | 414,158 | 226,883 | 2010 | 762,280 | 476,230 | 286,050 |
| 1996 | 610,153 | 368,885 | 241,268 | 2011 | 807,768 | 469,411 | 338,358 |
| 1997 | 656,235 | 383,399 | 272,836 | 2012 | 802,267 | 428,976 | 373,291 |
| 1998 | 664,840 | 399,319 | 265,521 | 2013 | 804,191 | 422,605 | 381,586 |
| 1999 | 656,710 | 373,493 | 238,217 | 2014 | 822,575 | 437,921 | 384,654 |
| 2000 | 669,627 | 402,267 | 267,360 | 2015 | 852,953 | 474,777 | 378,176 |
| 2001 | 613,617 | 384,833 | 228,784 | 2016 | 881,438 | 481,717 | 400,015 |
| 2002 | 654,370 | 374,344 | 280,026 | 2017 | 886,051 | 477,746 | 408,305 |
| 2003 | 703,137 | 391,329 | 311,808 | 2018 | 925,929 | 497,521 | 428,408 |
| 2004 | 750,596 | 442,578 | 308,018 | 2019 | 884,564 | 492,184 | 392,380 |
| 2005 | 617,725 | 371,040 | 246,685 | 2020 | 893,961 | 467,345 | 426,616 |

Number of U.S. Licenses Since 1937 continued (includes multistate licensees)

| Year | Surveying licensees | Resident licensees | Nonresident licensees | Year | Surveying licensees | Resident licensees | Nonresident licensees |
|------|------------------------|-----------------------|--------------------------|------|------------------------|-----------------------|--------------------------|
| 1997 | 49,966 | 37,805 | 12,161 | 2009 | 52,719 | 39,632 | 13,087 |
| 1998 | 51,495 | 39,816 | 11,679 | 2010 | 55,091 | 44,448 | 10,643 |
| 1999 | 52,622 | 40,303 | 12,319 | 2011 | 55,441 | 45,581 | 11,860 |
| 2000 | 51,865 | 40,575 | 11,290 | 2012 | 55,991 | 41,239 | 14,752 |
| 2001 | 46,813 | 37,968 | 8,845 | 2013 | 54,946 | 40,735 | 14,211 |
| 2002 | 47,393 | 36,603 | 10,790 | 2014 | 53,968 | 41,079 | 12,889 |
| 2003 | 44,614 | 33,418 | 11,196 | 2015 | 53,588 | 41,592 | 11,996 |
| 2004 | 50,032 | 38,177 | 11,855 | 2016 | 55,475 | 42,410 | 13,100 |
| 2005 | 44,253 | 34,468 | 9,785 | 2017 | 51,091 | 38,914 | 12,177 |
| 2006 | 49,167 | 38,995 | 10,172 | 2018 | 52,225 | 38,931 | 13,294 |
| 2007 | 53,950 | 43,724 | 10,226 | 2019 | 49,893 | 37,665 | 12,228 |
| 2008 | 56,074 | 43,300 | 12,774 | 2020 | 48,479 | 34,996 | 13,483 |



From licensing board members to exam development committees, volunteers are key to NCEES′ success. Pictured throughout *Squared* are a few of the exam development volunteers who shared their time and expertise with the Council this past year.



NCEES



- Pretest items are not scored - Presented to examinees to collect statistics

- If the item performs well, it is promoted to Operational for future
• All items are evaluated post-usage for statistical performan
- Poor items reviewed by EDE and returned to exam committee



Shank







