

NCE and SEE Interpretive Guide Calendar Year 2020

January 1, 2020 – December 31, 2020

NCE INTERPRETIVE GUIDE Calendar Year 2020 (CY 2020)

Program Administrators may access summary score reports for the National Certification Examination (NCE) and the Self-Evaluation Examination (SEE) via the NBCR NA website through the Program Administrator’s portal. The summary report will contain the results of all currently enrolled students or graduates of the program up to the most recent five years. Neither current students, nor program graduates, can request program summary or individual NCE or SEE score reports, as this reporting capability is limited to designated Program Administrators.

The information contained in this guide is intended to assist in interpreting NCE and SEE test takers’ scores. The score summaries contained in this document are based on test taker performance in calendar year 2020 (CY 2020) from January 1, 2020 to December 31, 2020. The NBCR NA aligns its fiscal year with calendar year starting in 2019.

NCE

- **Program Administrators:**
 - The Program Administrator summary report is in Excel format. The report contains student name, test date, exam number, total scaled score, result (P/F), and content area scaled scores. The content areas are described in detail in the test content outline of the *National Certification Examination (NCE) Candidate Handbook*.
 - To calculate the first-time test taker average for the total scaled score and each content area score for your students, simply sort the Excel spreadsheet by exam number (1 for first-time takers), sum the candidate scores for your program, both for the total score and for the content area scores, and divide by the number of candidates for your program. **Refer to the *NCE Example of Calculating an Average* that appears on the next page of this document.** These averages can be compared to the national NCE means (total and content area scores) in Table 1 on page 2.
 - The scaled score is a transformation of the examinee’s ability score estimated based on their test performance. The scaled score is listed for the total test and each of the content areas ranging from 0-900. The scaled score required to pass is 450 on the total test. Domain area scores are computed independently and cannot be averaged to produce the total test score.

- **Students:**
 - Compare your scores to the national NCE means in Table 1 on page 2.

NCE EXAMPLE OF CALCULATING AN AVERAGE

Report of NCE Takers for Program 0111

Test Dates 10/1/20XX to 12/1/20XX

Program	Exam	Name	Test Date	Exam No.	Total Score	Result	Score 1	Score 2	Score 3	Score 4
0111	CERT	Doe, F	11/19/20XX	1	413	F	410	306	454	419
0111	CERT	Doe, M	11/8/20XX	1	446	F	428	443	456	459
0111	CERT	Jane, E	11/2/20XX	1	497	P	482	459	499	501
0111	CERT	Jane, P	10/26/20XX	1	496	P	571	450	486	488
Total					1852		1891	1658	1895	1867
Average					463		472	414	473	466

(Average = Total Divided by number of test takers; in this case 4)

Score 1= Basic sciences

Score 2= Equipment, instrumentation and technology

Score 3= General principles of anesthesia

Score 4= Anesthesia for surgical procedures and special populations

Table 1. Descriptive Statistics for NCE Overall and Domain Scores—First-Time Candidates for CY 2020

	Mean	Standard Deviation
Total Score	496.2	44.5
Basic Science	500.7	60.5
Equipment, Instrumentation and Technology	507.0	70.6
General Principles of Anesthesia	496.7	55.8
Anesthesia for Surgical Procedures and Special Populations	499.8	57.9

SEE INTERPRETIVE GUIDE, Calendar Year 2020 (CY 2020)

The NBCRNA launched the reconfigured version Self-Evaluation Examination (SEE) on September 1, 2016 to mirror the content outline for the NCE. The length of the examination increased from 160 to 240 total questions with the testing time limit increased from three to four hours. The SEE content outline was modified again in May of 2018 to reflect the January 2018 revisions to the NCE content outline.

The information contained in this guide is intended to assist in interpreting test takers' SEE scores. This interpretive guide is based on the results data of test takers who took the SEE in CY 2020. Students and Program Administrators may follow these instructions to compare SEE performance using the data tables contained within this guide. Please note that both traditional fiscal year 2019 (FY 2019, September 1, 2018 through August 31, 2019) and calendar year 2019 (CY 2019) Interpretive Guide were released to assist Program Administrators' adjustment to the NBCRNA's alignment of fiscal year with calendar year. Starting in 2020, only CY 2020 Interpretive Guide is provided.

- Program Administrators:
 - The Program Administrator summary report is in Excel format. The report contains student name, test date, year in program, total scaled score, and content area scaled scores from 1-4. The content areas are described in detail in the test content outline of the *Self-Evaluation Examination (SEE) Candidate Handbook*.
 - The scaled score is listed for the total test and each of the content areas and is a transformation of the examinee's demonstrated ability measure. The scaled scores on the SEE range from 300-600.
 - To calculate the average for the SEE total scaled score and each content area score for your students, simply sum the candidate scores for your program, both for the total score and for the content area scores and divide by the number of candidates for your program. Refer to the **SEE Example of Calculating an Average** that appears next page.
 - These averages can be compared to the national SEE averages in Table 1 on next page and to the cumulative percentage tables starting on page 5.

SEE EXAMPLE OF CALCULATING AN AVERAGE

**Report of SEE Takers for Program 0111
Test Dates 7/1/20XX to 7/31/20XX**

Program	Exam	Name	Test Date	Year in Program	Total Score	Score 1	Score 2	Score 3	Score 4
0111	NSEE	Doe, F	7/13/20XX	1	464	426	460	459	440
0111	NSEE	Doe, M	7/28/20XX	1	379	411	358	351	404
0111	NSEE	Jones, F	7/27/20XX	1	350	380	459	321	389
0111	NSEE	Jones, M	7/28/20XX	1	376	368	357	391	329
Total					1569	1585	1634	1522	1562
Average					392	396	408	380	390

(Average = Total divided by number of test takers; in this case 4)

The scores reflect the following content areas:

Score 1= Basic sciences

Score 2= Equipment, instrumentation and technology

Score 3= General principles of anesthesia

Score 4= Anesthesia for surgical procedures and special populations

Table 1. Descriptive Statistics for SEE Overall and Domain Scores, CY 2020

	1st Year in Program		2nd Year in Program		3rd Year in Program		All	
	Avg	SD	Avg	SD	Avg	SD	Avg	SD
Total	404.1	50.1	416.7	47.1	432.4	39.6	426.7	43.2
Basic Science	400.1	60.2	419.2	53.6	429.7	46.4	425.6	49.6
Equipment, Instrumentation and Technology	407.3	53.6	419.5	51.6	436.8	45.5	430.4	48.6
General Principles of Anesthesia	412.8	54.7	416.8	51.6	432.2	44.4	426.7	47.7
Anesthesia for Surgical Procedures and Special Populations	399.9	51.9	414.8	51.1	434.1	45.3	427.0	48.4

Students:

- Compare your scores to the cumulative percentage tables starting on page 5.

SEE CUMULATIVE PERCENTAGE TABLES

At the top of the following pages, the main headings list each of the content areas and the total test score. You can compare your individual or your students' performance with other students for each of these content areas by following the appropriate heading.

Under each main heading you will see groups of columns with subheadings as in the following example:

Basic Sciences

	Year 1 Cum %	Year 2 Cum %	Year 3&Up Cum %	All Cum %
401-410	57.6	41.6	31.7	35.5
411-420	65.7	48.3	39.7	43.1
421-430	70.7	55.8	49.2	51.8
431-440	72.7	64.1	58.2	60.5
441-450	78.8	71.3	67.1	68.8

To compare a score on "Basic Sciences," locate the column on your Program Administrator report labeled score 1 and find the student's scaled score. If the student's scaled score on this content area was 405, you would look down the first column on the cumulative percentage table for "Basic Sciences" until you found the score range of 401-410. The next column to the right, labeled "Year 1 Cum. %," lists the corresponding cumulative percentage of 57.6 for all first-year examinees. The 41.6 in the next column is the cumulative percentage for all second-year examinees. The 31.7 in the next column is the cumulative percentage for all third year and beyond examinees. The corresponding cumulative percentage of 35.5 for all examinees at that scaled score value is listed in the far-right column labeled "All Cum. %." This means that with a scaled score of 405 on "Basic Sciences," your student scored higher than or equal to 35.5% of all examinees on that content area. Score comparisons among Year 1 students should be made with caution because of the small sample size of this subgroup in CY 2020.

Students should use these tables in the same manner as Program Administrators to interpret their individual SEE performance across the content areas and total test.

Tables 2-6. SEE Descriptive Statistics, CY 2020

Score 1: Basic Sciences

	Year 1 Cum %	Year 2 Cum %	Year 3&Up Cum %	All Cum %
300-310	8.1	3.4	1.1	2.0
311-320	9.1	4.5	1.7	2.8
321-330	11.1	6.8	2.6	4.2
331-340	17.2	8.3	3.7	5.5
341-350	22.2	10.8	5.5	7.6
351-360	26.3	14.8	7.6	10.3
361-370	36.4	18.9	10.8	14.0
371-380	42.4	23.6	14.4	18.0
381-390	45.5	29.2	18.7	22.7
391-400	52.5	34.6	24.5	28.4
401-410	57.6	41.6	31.7	35.5
411-420	65.7	48.3	39.7	43.1
421-430	70.7	55.8	49.2	51.8
431-440	72.7	64.1	58.2	60.5
441-450	78.8	71.3	67.1	68.8
451-460	80.8	78.1	75.5	76.5
461-470	84.9	83.8	81.4	82.3
471-480	87.9	87.4	87.4	87.4
481-490	91.9	90.7	90.9	90.9
491-500	93.9	93.6	94.4	94.1
501-510	96.0	96.0	96.6	96.4
511-520	96.0	97.8	97.8	97.8
521-530	99.0	98.9	98.6	98.7
531-540	100.0	99.4	99.5	99.4
541-550	100.0	99.7	99.7	99.7
551-560	100.0	99.8	99.9	99.8
561-570	100.0	99.9	99.9	99.9
571-580	100.0	99.9	99.9	99.9
581-590	100.0	100.0	100.0	100.0
591-600	100.0	100.0	100.0	100.0

Score 2: Equipment, Instrumentation and Technology

	Year 1 Cum %	Year 2 Cum %	Year 3&Up Cum %	All Cum %
300-310	2.0	2.4	0.7	1.3
311-320	4.0	3.2	1.2	1.9
321-330	6.1	4.7	1.8	2.9
331-340	10.1	6.3	2.6	3.9
341-350	17.2	9.8	3.9	6.1
351-360	24.2	13.1	5.6	8.5
361-370	29.3	17.5	7.6	11.3
371-380	32.3	22.4	10.5	14.9
381-390	37.4	28.5	14.9	19.8
391-400	43.4	35.1	19.6	25.2
401-410	48.5	42.1	26.3	32.0
411-420	61.6	50.5	34.4	40.3
421-430	68.7	58.1	43.0	48.5
431-440	72.7	66.1	51.6	56.8
441-450	78.8	72.2	60.6	64.8
451-460	81.8	78.9	70.2	73.3
461-470	89.9	84.7	78.2	80.6
471-480	92.9	88.9	84.0	85.8
481-490	93.9	92.0	89.1	90.2
491-500	95.0	94.6	92.6	93.3
501-510	97.0	96.6	95.3	95.8
511-520	97.0	97.7	97.1	97.3
521-530	98.0	98.4	98.3	98.3
531-540	98.0	98.8	99.0	98.9
541-550	99.0	99.4	99.5	99.5
551-560	100.0	99.7	99.7	99.7
561-570	100.0	99.7	99.8	99.8
571-580	100.0	99.7	99.9	99.8
581-590	100.0	99.8	100.0	99.9
591-600	100.0	100.0	100.0	100.0

Score 3: General Principles of Anesthesia

	Year 1 Cum %	Year 2 Cum %	Year 3&Up Cum %	All Cum %
300-310	3.0	2.8	0.5	1.3
311-320	4.0	3.6	0.9	1.9
321-330	5.1	5.2	1.6	2.9
331-340	11.1	7.1	2.5	4.2
341-350	15.2	9.9	3.6	5.9
351-360	20.2	12.8	5.7	8.3
361-370	23.2	18.0	8.6	12.0
371-380	30.3	23.4	11.7	15.9
381-390	36.4	31.4	16.9	22.1
391-400	45.5	39.4	22.6	28.6
401-410	48.5	46.0	29.3	35.2
411-420	52.5	53.8	37.6	43.3
421-430	60.6	60.7	47.7	52.2
431-440	67.7	67.7	57.5	61.1
441-450	73.7	74.0	66.9	69.4
451-460	77.8	79.4	75.3	76.7
461-470	82.8	85.5	82.2	83.3
471-480	84.9	89.1	87.6	88.0
481-490	89.9	92.0	91.2	91.5
491-500	96.0	94.2	94.0	94.1
501-510	98.0	96.1	96.1	96.1
511-520	99.0	97.5	97.4	97.5
521-530	100.0	98.5	98.4	98.5
531-540	100.0	99.2	99.1	99.1
541-550	100.0	99.5	99.4	99.4
551-560	100.0	99.7	99.6	99.6
561-570	100.0	99.9	99.8	99.8
571-580	100.0	100.0	99.9	99.9
581-590	100.0	100.0	99.9	100.0
591-600	100.0	100.0	100.0	100.0

Score 4: Anesthesia for Surgical Procedures and Special Populations

	Year 1 Cum %	Year 2 Cum %	Year 3&Up Cum %	All Cum %
300-310	5.1	3.2	0.7	1.6
311-320	5.1	4.3	0.9	2.1
321-330	6.1	5.6	1.4	2.9
331-340	12.1	7.8	2.4	4.4
341-350	17.2	10.9	3.5	6.2
351-360	22.2	14.3	5.4	8.7
361-370	26.3	18.9	8.6	12.3
371-380	38.4	24.7	11.9	16.7
381-390	47.5	30.9	17.2	22.4
391-400	53.5	38.6	22.9	28.7
401-410	59.6	45.8	28.9	35.1
411-420	70.7	54.6	37.5	43.8
421-430	76.8	62.5	46.4	52.4
431-440	79.8	68.6	54.6	59.8
441-450	81.8	75.1	62.8	67.3
451-460	86.9	81.4	72.1	75.5
461-470	89.9	86.2	78.9	81.5
471-480	91.9	90.5	84.2	86.4
481-490	93.9	93.2	89.3	90.7
491-500	95.0	95.2	93.5	94.1
501-510	96.0	97.6	96.3	96.7
511-520	99.0	98.3	97.9	98.1
521-530	99.0	99.0	98.7	98.8
531-540	99.0	99.4	99.3	99.4
541-550	100.0	99.7	99.7	99.7
551-560	100.0	99.9	99.8	99.8
561-570	100.0	99.9	99.9	99.9
571-580	100.0	99.9	100.0	100.0
581-590	100.0	100.0	100.0	100.0
591-600	100.0	100.0	100.0	100.0

5. Overall Scaled Score for Total Test

	Year 1 Cum %	Year 2 Cum %	Year 3&Up Cum %	All Cum %
300-310	1.0	2.3	0.4	1.1
311-320	3.0	3.1	0.7	1.5
321-330	4.0	4.1	1.0	2.1
331-340	9.1	5.6	1.6	3.1
341-350	14.1	9.0	2.7	5.0
351-360	18.2	12.5	4.9	7.7
361-370	28.3	16.2	7.0	10.5
371-380	34.3	21.1	9.6	13.9
381-390	43.4	26.7	13.4	18.4
391-400	54.6	34.9	19.1	25.0
401-410	63.6	43.4	26.8	33.1
411-420	65.7	51.6	35.6	41.5
421-430	68.7	61.4	46.3	51.7
431-440	73.7	69.8	56.5	61.2
441-450	80.8	75.7	67.9	70.8
451-460	82.8	82.5	77.2	79.1
461-470	86.9	87.7	84.3	85.5
471-480	91.9	91.5	90.1	90.6
481-490	97.0	94.8	93.7	94.1
491-500	97.0	96.8	96.1	96.3
501-510	97.0	98.1	97.7	97.8
511-520	99.0	98.8	98.9	98.9
521-530	99.0	99.6	99.5	99.5
531-540	100.0	99.8	99.9	99.8
541-550	100.0	99.9	99.9	99.9
551-560	100.0	99.9	100.0	99.9
561-570	100.0	99.9	100.0	100.0
571-580	100.0	99.9	100.0	100.0
581-590	100.0	100.0	100.0	100.0
591-600	100.0	100.0	100.0	100.0