

NCE and SEE Interpretive Guide

September 1, 2018 - August 31, 2019

Table of Contents

NCE Interpretive Guide, FY 2019	1
NCE Example of Calculating an Average	2
SEE Interpretive Guide, FY 2019	3
SEE Example of Calculating an Average	4
SEE Cumulative Percentage Tables	5

**NCE INTERPRETIVE GUIDE FY2019
(September 1, 2018 to August 31, 2019)**

Program Administrators may access summary score reports for the National Certification Examination (NCE) and the Self-Evaluation Examination (SEE) via the NBCRNA 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 provide assistance in interpreting NCE and SEE test takers’ scores. The score summaries contained in this document are based on test taker performance in fiscal year 2019 that runs from September 1, 2018 to August 31, 2019. As the NBCRNA is in the transition of aligning fiscal year with calendar year, an additional NCE interpretative guide, based on the candidate performance in calendar year 2019, will be provided in Spring of 2020.

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 Tables 1 and 2 on page 2.
 - The scaled score is listed for the total test and each of the content areas and is a transformation of the examinee’s ability score estimated based on their test performance. The scaled scores on the NCE range from 0-900.

- 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, instrument, 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
September 2018 - August 2019**

	Mean	Standard Deviation
Total Score	493.7	46.5
Basic Science	500.5	63.0
Equipment, Instrumentation and Technology	503.7	73.0
General Principles of Anesthesia	496.9	58.1
Anesthesia for Surgical Procedures and Special Populations	493.1	57.4

INTERPRETIVE GUIDE FOR SEE FY 2019

(for examinees from September 1, 2018 to August 31, 2019)

The NBCRNA launched a new 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 modifications to the NCE content outline

The information contained in this guide is intended to provide assistance in interpreting test takers' SEE scores. This interpretive guide is based on the results data of test takers who took the SEE from September 2018 through August 2019. Students and Program Administrators may use these instructions to compare SEE performance using the data tables contained within this guide. As the NBCRNA is in the transition of aligning fiscal year with calendar year, the SEE interpretative guide based on the examinee performance in calendar year 2019 will be provided in Spring 2020.

- 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 below.
 - These averages can be compared to the national SEE averages in Table 1 below 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	Score 5
0111	NSEE	Doe, F	7/13/20XX	1	464	426	460	459	440	0
0111	NSEE	Doe, M	7/28/20XX	1	379	411	358	351	404	0
0111	NSEE	Jones, F	7/27/20XX	1	350	380	459	321	389	0
0111	NSEE	Jones, M	7/28/20XX	1	376	368	357	391	329	0
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, instrument, technology

Score 3= General principles of anesthesia

Score 4= Anesthesia for Surgical Procedures and Special Populations

Score 5= *Is intentionally left blank on or after September 1, 2016*

Table 1. Descriptive Statistics for SEE Overall and Domain Scores, September 2018 – August 2019

	1st Year (N=213)		2nd Year (N=1818)		3rd Year (N=2410)		All (N=4441)	
	Avg	SD	Avg	SD	Avg	SD	Avg	SD
Total	404.8	45.0	409.7	43.5	424.7	41.3	417.6	43.1
Basic Science	407.5	51.9	407.2	50.8	418.1	48.8	413.1	50.1
Equipment, Instrumentation and Technology	405.8	49.5	413.4	48.7	429.5	45.3	421.8	47.7
General Principles of Anesthesia	404.9	50.2	410.0	47.0	424.2	46.2	417.4	47.3
Anesthesia for Surgical Procedures and Special Populations	404.9	47.1	411.5	49.0	430.3	47.5	421.4	49.1

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

CUMULATIVE PERCENTAGE TABLES: SEE

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	52.1	53.0	44.8	48.5
411-420	60.1	61.5	53.0	56.8
421-430	67.1	68.2	61.3	64.4
431-440	73.2	74.4	68.9	71.4
441-450	79.8	79.7	75.5	77.4

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 52.1 for all first-year examinees. The 53.0 in the next column is the cumulative percentage for all second-year examinees. The 44.8 in the next column is the cumulative percentage for all third-year and beyond examinees. The corresponding cumulative percentage of 48.5 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 48.5% of all examinees on that content area.

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 1- 5. SEE Descriptive Statistics, September 2018-August 2019

Score 1: Basic Sciences

	Year 1 Cum %	Year 2 Cum %	Year 3&Up Cum %	All Cum %
300-310	1.9	3.3	2.0	2.5
311-320	4.2	4.9	3.2	3.9
321-330	8.0	6.8	4.1	5.4
331-340	10.8	10.0	5.6	7.7
341-350	14.6	12.8	8.1	10.3
351-360	20.7	18.3	11.2	14.5
361-370	26.8	23.7	15.2	19.2
371-380	32.4	30.4	20.8	25.3
381-390	38.0	37.6	27.4	32.1
391-400	44.1	45.8	35.4	40.1
401-410	52.1	53.0	44.8	48.5
411-420	60.1	61.5	53.0	56.8
421-430	67.1	68.2	61.3	64.4
431-440	73.2	74.4	68.9	71.4
441-450	79.8	79.7	75.5	77.4
451-460	85.5	85.5	81.5	83.3
461-470	87.8	89.2	86.4	87.6
471-480	93.0	92.0	90.4	91.2
481-490	94.4	94.7	93.1	93.8
491-500	95.8	96.4	95.2	95.7
501-510	96.2	97.5	96.9	97.1
511-520	97.7	98.2	97.6	97.9
521-530	99.1	98.8	98.6	98.7
531-540	99.1	99.3	99.1	99.2
541-550	99.5	99.6	99.5	99.6
551-560	100.0	99.8	99.7	99.8
561-570	100.0	100.0	99.8	99.9
571-580	100.0	100.0	99.8	99.9
581-590	100.0	100.0	99.9	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	4.2	2.3	1.4	1.9
311-320	5.6	3.0	1.9	2.5
321-330	7.5	4.8	2.3	3.6
331-340	9.4	7.3	3.4	5.3
341-350	15.0	9.7	5.0	7.4
351-360	19.3	14.3	7.6	10.9
361-370	23.5	19.0	9.8	14.2
371-380	28.2	24.9	13.5	18.9
381-390	36.6	32.3	17.9	24.7
391-400	44.6	39.1	24.2	31.2
401-410	54.0	47.2	30.5	38.5
411-420	61.0	54.8	39.2	46.7
421-430	69.5	64.7	48.3	56.0
431-440	75.1	71.8	57.8	64.3
441-450	84.0	78.1	66.9	72.3
451-460	86.9	82.9	75.7	79.2
461-470	90.1	87.4	83.2	85.3
471-480	93.9	90.9	89.3	90.2
481-490	94.8	94.2	92.7	93.4
491-500	96.7	96.4	95.2	95.7
501-510	97.7	97.7	97.1	97.4
511-520	99.5	98.9	98.3	98.6
521-530	100.0	99.4	99.1	99.2
531-540	100.0	99.6	99.3	99.4
541-550	100.0	99.7	99.5	99.6
551-560	100.0	99.8	99.7	99.8
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 3: General Principles of Anesthesia

	Year 1 Cum %	Year 2 Cum %	Year 3&Up Cum %	All Cum %
300-310	5.2	2.3	0.7	1.6
311-320	6.6	3.1	1.4	2.3
321-330	8.0	4.5	2.5	3.6
331-340	10.3	6.2	4.3	5.4
341-350	16.4	9.0	6.4	8.0
351-360	21.1	14.0	8.6	11.4
361-370	25.8	19.6	12.5	16.1
371-380	30.5	26.7	17.8	22.0
381-390	38.0	35.5	23.5	29.1
391-400	45.5	43.5	30.2	36.4
401-410	52.6	51.1	37.1	43.6
411-420	59.2	60.4	45.0	52.0
421-430	68.1	67.3	53.6	59.9
431-440	75.1	74.4	63.2	68.3
441-450	80.8	81.1	71.2	75.7
451-460	85.9	85.8	78.8	82.0
461-470	90.1	90.0	85.0	87.3
471-480	93.9	92.6	89.8	91.1
481-490	96.2	94.8	93.1	93.9
491-500	99.1	96.4	95.4	96.0
501-510	99.1	98.0	97.3	97.7
511-520	99.5	98.8	98.3	98.6
521-530	99.5	99.4	98.9	99.1
531-540	99.5	99.8	99.4	99.6
541-550	99.5	99.9	99.8	99.8
551-560	100.0	99.9	99.8	99.8
561-570	100.0	100.0	99.8	99.9
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	2.8	2.6	1.3	1.9
311-320	4.2	3.4	1.7	2.5
321-330	6.6	5.1	2.5	3.7
331-340	9.9	7.6	3.7	5.6
341-350	13.6	11.1	5.6	8.2
351-360	18.3	15.6	7.6	11.4
361-370	24.9	21.4	11.1	16.0
371-380	29.1	27.2	15.2	20.8
381-390	37.1	33.9	20.3	26.7
391-400	43.7	41.3	26.8	33.6
401-410	49.8	48.7	32.2	39.8
411-420	63.9	56.4	40.0	47.9
421-430	72.3	63.9	47.8	55.6
431-440	77.9	71.7	55.8	63.4
441-450	83.6	77.7	64.7	70.9
451-460	86.9	83.1	72.6	77.6
461-470	90.1	89.1	80.0	84.2
471-480	94.4	92.2	85.6	88.7
481-490	97.7	94.6	90.4	92.5
491-500	99.1	96.8	94.2	95.5
501-510	99.1	97.8	96.6	97.2
511-520	100.0	98.7	98.1	98.4
521-530	100.0	99.5	99.1	99.3
531-540	100.0	99.8	99.5	99.7
541-550	100.0	99.9	99.8	99.8
551-560	100.0	100.0	99.9	100.0
561-570	100.0	100.0	100.0	100.0
571-580	100.0	100.0	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	1.9	1.8	1.0	1.4
311-320	2.8	2.5	1.4	1.9
321-330	6.6	3.5	1.8	2.8
331-340	8.5	5.4	3.1	4.3
341-350	12.2	8.0	4.4	6.3
351-360	19.3	12.6	6.6	9.7
361-370	23.9	18.2	9.9	13.9
371-380	30.1	24.6	14.5	19.4
381-390	37.1	33.4	19.0	25.7
391-400	42.7	43.1	26.4	34.0
401-410	52.1	50.7	34.0	41.7
411-420	59.6	59.2	43.5	50.7
421-430	70.0	68.4	53.0	60.1
431-440	79.8	76.5	63.4	69.6
441-450	86.4	82.3	73.9	77.9
451-460	90.6	87.1	82.2	84.6
461-470	92.5	91.6	88.3	89.9
471-480	94.8	94.8	92.3	93.5
481-490	98.1	97.0	95.2	96.1
491-500	99.1	98.6	97.4	98.0
501-510	99.5	99.2	98.6	98.9
511-520	100.0	99.4	99.3	99.4
521-530	100.0	99.8	99.6	99.7
531-540	100.0	99.9	99.8	99.8
541-550	100.0	100.0	99.8	99.9
551-560	100.0	100.0	100.0	100.0
561-570	100.0	100.0	100.0	100.0
571-580	100.0	100.0	100.0	100.0
581-590	100.0	100.0	100.0	100.0
591-600	100.0	100.0	100.0	100.0