

SECTION IV—EVIDENCE FOR MEETING STANDARDS

Assessment #1 Licensure Assessment Praxis II: Mathematics Content Knowledge-5161

a. Description of the Assessment

The Praxis II Mathematics: Content Knowledge (5161) test is designed to assess the mathematical knowledge and competencies necessary for a beginning teacher of secondary school mathematics. The State of New Jersey requires candidates to achieve a minimum score of 160 on this test in order to be certified to teach secondary mathematics. TCNJ teacher candidates are required to take the Praxis II prior to student teaching. If they do not achieve the minimum score, they must retake the test before they can be certified to teach secondary mathematics in New Jersey. The test is computer-delivered, contains 60 questions, and candidates have 150 minutes to complete the test. An on-screen graphing calculator is provided for the test.

b. Alignment of NCTM Standards and Indicators with this assessment

PraxisTM Mathematics: Content Knowledge (5161) Alignment to NCTM CAEP® Standards (2012) Mathematics Content for Secondary **(Based on a joint collaboration by NCTM and ETS)**

NCTM CAEP Standards(2012) Mathematical Domains	NCTM CAEP Standards (2012) Mathematical Domain Competencies Covered by <i>Praxis</i> 5161
A.1 Number and Quantity	A.1.1, A.1.2, A.1.3
A.2 Algebra	A.2.1, A.2.2, A.2.3, A.2.4
A.3 Geometry and Trigonometry	A.3.2, A.3.3, A.3.4, A.3.5, A.3.6, A.3.7, A.3.8, A.3.9
A.4 Statistics and Probability	A.4.1, A.4.3, A.4.4, A.4.5
A.5 Calculus	A.5.1, A.5.3, A.5.5
A.6 Discrete Mathematics	A.6.2, A.6.3

Retrieved from:

https://www.nctm.org/uploadedFiles/Standards_and_Positions/CAEP_Standards/Praxis%205161%20NCTM%20Alignment%20Standards%202012%20Secondary%20ETS-FEB%202014.pdf

c. Data findings

According to the data on scores for undergraduate students who took the Praxis 5161 Mathematics: Content Knowledge Exam, the scores revealed an increase between the years 2016-2018. In the year 2016-2017 with a sample of 23 test-takers, the average Praxis score of students was 170 and in the year 2017-2018 with a sample of 21 test-

takers, the students' score average increased by 5.38 points to 175.38. This surpasses the minimum required score by 10 and 15.38 points, respectively, and demonstrates a 100% passing rate in both years.

The students mean scores on the subtests varied slightly but all were above 70%, and with the exception of Geometry, Probability and Statistics, and Discrete Mathematics in the year 2016-2017, all were above 75%.

d. Data Interpretation

We believe that the candidates are meeting the mathematics content standards described in the NCTM CAEP Standards (2012) Mathematical Domains, specifically competencies A.1.1, A.1.2, A.1.3, A.2.1, A.2.2, A.2.3, A.2.4, A.3.2, A.3.3, A.3.4, A.3.5, A.3.6, A.3.7, A.3.8, A.3.9, A.4.1, A.4.3, A.4.4, A.4.5, A.5.1, A.5.3, A.5.5, A.6.2, A.6.3, according to the alignment provided by NCTM. As in the past, the data show a 100% pass rate for our candidates over the two-year period, 2016-2018.

From looking at the subscore data, there is not much variation between the two years. Also, the average subscores are rather high in all areas with the strongest area being Number and Quantity, Algebra, Functions, and Calculus.

Since the adoption of the new test #5161, we have noticed an increase in the number of candidates that need to re-take the test in order to pass, more than once in very few cases. If this trend continues, we may need to think about including some preparation for the Praxis II in the program.

e. Description of the assessment

The Praxis II: Mathematics Content Knowledge offered by the Educational Testing Service (ETS) is the test required for New Jersey state licensure. Candidates have 150 minutes to complete the 60 questions and an on-screen graphing calculator is provided. Teacher candidates have to obtain a minimum score of 160 on the test for licensure in New Jersey.

f. Scoring guide

Passing score for New Jersey Mathematics content knowledge test (5161): 160

g. Data charts

Praxis Exam 5161 Mathematics: Content Knowledge Scores
Overall and Subtest
Program Completers – 2016-2018

NCTM CAEP Standards (2012) Mathematical Domain Competencies Covered by <i>Praxis 5161</i> : A.1.1, A.1.2, A.1.3, A.2.1, A.2.2, A.2.3, A.2.4, A.3.2, A.3.3, A.3.4, A.3.5, A.3.6, A.3.7, A.3.8, A.3.9, A.4.1, A.4.3, A.4.4, A.4.5, A.5.1, A.5.3, A.5.5, A.6.2, A.6.3					
Year	Completer	Score	Pass or Fail	Number and Quantity, Algebra, Functions, and Calculus	Geometry, Probability and Statistics, and Discrete Mathematics
				34 possible	16 possible
2016-2017	1	160	Pass	24	11
	2	175	Pass	29	11
	3	173	Pass	23	14
	4	183	Pass	28	13
	5	160	Pass	24	8
	6	165	Pass	22	12
	7	169	Pass	28	13
	8	163	Pass	24	9
	9	165	Pass	24	11
	10	163	Pass	23	11
	11	170	Pass	28	10
	12	181	Pass	30	10
	13	173	Pass	25	12
	14	170	Pass	28	10
	15	167	Pass	24	13
	16	164	Pass	27	12
	17	168	Pass	25	11
	18	182	Pass	30	15
	19	165	Pass	25	9
	20	166	Pass	23	10
	21	163	Pass	24	9
	22	194	Pass	32	15
	23	171	Pass	29	13
2017-2018	24	180	Pass	30	11
	25	174	Pass	26	12
	26	164	Pass	25	12
	27	167	Pass	26	11
	28	165	Pass	23	13
	29	186	Pass	29	14
	30	179	Pass	27	13
	31	174	Pass	24	12
	32	178	Pass	28	13

	33	183	Pass	30	14
	34	191	Pass	30	15
	35	160	Pass	23	11
	36	187	Pass	29	15
	37	167	Pass	28	9
	38	160	Pass	24	9
	39	174	Pass	28	13
	40	161	Pass	23	8
	41	177	Pass	29	13
	42	199	Pass	32	15
	43	175	Pass	26	14
	44	182	Pass	26	13

Praxis Exam 5161 Mathematics: Content Knowledge Summary data

NCTM CAEP Standards (2012) Mathematical Domain Competencies Covered by *Praxis* 5161: A.1.1, A.1.2, A.1.3, A.2.1, A.2.2, A.2.3, A.2.4, A.3.2, A.3.3, A.3.4, A.3.5, A.3.6, A.3.7, A.3.8, A.3.9, A.4.1, A.4.3, A.4.4, A.4.5, A.5.1, A.5.3, A.5.5, A.6.2, A.6.3

Academic Year	Number of Test Takers	NJ State Passing Score	Natl. Median	Mean Scores	Pass rate	Number and Quantity, Algebra, Functions, and Calculus	Geometry, Probability and Statistics, and Discrete Mathematics
2016-2017	23	160	158	170	100%	26 out of 34 correct or 76.6%	11.4 out of 16 correct or 71.2%
2017-2018	21	160	159	175.38	100%	27 out of 34 correct or 79.3%	12.4 out of 16 correct or 77.4%