



Pharmacy Curriculum Outcomes Assessment[®] (PCOA[®])

Sample School/College of Pharmacy Report

The following tables summarize your students' performance on the PCOA. The first table, School Score Means, includes the mean scores for the total assessment as well as the mean scores for each of the four major content areas. In this table, shaded rows indicate the mean scores for all students in this national assessment administration sample and can be used as a reference point of comparison for your school. Nationally, in 2011 a total of 2,688 students participated in the PCOA. The breakdown across program years is the following: 524 students in their first year, 604 students in their second year, 1,440 students in their third year, and 120 students in their fourth year.

The second table, School Subtopic Means, reports the percent of items answered correctly on the subtopics from each major content area by program year. Subtopics have too few items to report scale scores reliably, so instead, mean percent correct scores are reported. The mean percent correct is reported for your school by program year. The mean national percent correct (shaded columns) indicates the mean percent correct for students in this national assessment administration sample by program year and can be used as a reference point of comparison for your school. The last two pages of this document include a sample Individual Score Report and a School-Level Score Report. Scale scores, percent-correct indices, and percentiles per program year are presented. Each of these measurement indices are explained below.

Scale Scores: The scale scores are informative in that they take into account the difficulty of the items in the major content areas. Scale scores generally range from 0 (lowest ability) to 700 (highest ability) and can be compared across administrations. Scale scores can also be compared between the major content areas, such that a student scoring 200 on Pharmaceutical Sciences and 250 on Basic Sciences is more knowledgeable in Basic Sciences than Pharmaceutical Sciences. In the following tables, the Scale Score is the mean scale score for your school (by program year) and the National Scale Score is the mean scale score for all examinees (by program year) in this test administration.

Percent Correct: Percent correct scores report the mean percentage of items answered correctly. The Percent Correct is the mean percent correct score for your school (by program year) and the National Percent Correct is the mean percent correct for all students (by program year) in this assessment administration.

Percentile for Program Year: Mean percentiles are reported for your school by program year. These percentiles were computed using only students in the specific program year. This percentile gives performance information in relation to other students **within** the same program year. For example, if a first-year student's Percentile for Program Year score was 60, this implies that the student performed equally or better than 60% of all other first-year students that completed the assessment this year.

SAMPLE

Table 1. School Score Means – Spring 2011

Your University

		Year 1	Year 2	Year 3	Year 4
Total Score	Scale Score	306	350	406	395
	National Scale Score	269	311	340	380
	Percent Correct	53	61	72	70
	National Percent Correct	45	53	59	67
	Percentile for Program Year	44	48	74	49
Basic Biomedical Sciences	Scale Score	341	363	395	361
	National Scale Score	304	332	326	359
	Percent Correct	60	64	70	64
	National Percent Correct	54	59	58	65
	Percentile for Program Year	47	51	66	44
Pharmaceutical Sciences	Scale Score	279	360	392	377
	National Scale Score	278	316	337	365
	Percent Correct	41	58	65	62
	National Percent Correct	35	43	48	54
	Percentile for Program Year	35	53	67	47
Social/Behavioral/Administrative Pharmacy Sciences	Scale Score	363	366	441	421
	National Scale Score	271	315	336	378
	Percent Correct	72	74	84	82
	National Percent Correct	58	66	70	76
	Percentile for Program Year	58	52	77	58
Clinical Sciences	Scale Score	289	332	421	429
	National Scale Score	244	297	357	416
	Percent Correct	48	57	73	75
	National Percent Correct	41	53	65	75
	Percentile for Program Year	45	39	71	51
	NUMBER OF STUDENTS	28	28	26	25

SAMPLE

Table 2. School Subtopic Means – Spring 2011

Subtopics*	Yr 1	Yr 2	Yr 3	Yr 4	Nat. Yr 1	Nat. Yr 2	Nat. Yr 3	Nat. Yr 4
	%	%	%	%	%	%	%	%
Basic Biomedical Sciences								
Anatomy & Physiology	67	69	73	61	58	63	60	67
Pathology/Pathophysiology	59	63	66	65	49	59	59	72
Microbiology	40	53	70	67	50	54	56	63
Immunology	56	59	84	65	50	53	46	47
Biochemistry/Biotechnology	71	72	68	66	58	64	64	66
Biostatistics	53	58	60	60	48	54	52	59
Pharmaceutical Sciences								
Medicinal Chemistry	43	62	65	58	39	50	48	51
Pharmacology	28	61	69	70	31	40	52	64
Pharmacognosy and Alternative and Complementary TX	25	66	71	71	36	36	40	45
Toxicology	22	60	61	83	25	34	41	50
Bioanalysis/Clinical Chemistry	44	52	95	88	43	55	71	75
Pharmaceutics/Biopharmaceutics	54	52	58	46	39	45	44	49
Pharmacokinetics/Clinical Pharmacokinetics	47	54	61	56	34	41	46	50
Pharmacogenomics/Genetics	56	76	92	96	42	62	60	70
Extemporaneous Compounding/Parenteral/Enteral	46	53	60	69	24	23	27	25
Social/Behavioral/Administrative Pharmacy Sciences								
Healthcare Delivery Systems	64	72	89	68	56	65	69	72
Economics/Pharmacoeconomics	70	59	67	79	58	59	68	70
Practice Management	60	76	86	83	49	54	59	65
Pharmacoepidemiology	69	59	74	46	51	77	79	98
Pharmacy Law and Regulatory Affairs	81	73	75	80	53	62	67	79
History of Pharmacy	100	97	100	88	56	57	69	89
Ethics	73	71	91	86	66	74	75	82
Professional Communications	75	79	85	87	72	82	81	85
Social and Behavioral Aspects of Practice	81	83	91	99	66	80	78	83
Clinical Sciences								
Pharmacy Practice and Pharmacist-Provided Care	54	62	79	79	39	49	62	76
Medication Dispensing and Distribution Systems	53	68	85	86	47	56	68	74
Pharmacotherapy – Practice Guidelines and Clinical Trials	43	47	57	65	39	54	67	74
Pharmacotherapy – Health Promotion/Disease Prevention	45	68	82	75	34	50	71	81
Pharmacotherapy – Pharmaceutical Care	36	49	66	68	35	47	58	70
Pharmacist-provided care for Special Populations	54	40	60	58	38	43	57	64
Drug Information	77	63	80	85	52	71	82	89
Medication Safety	84	93	97	100	59	62	62	64
Literature Evaluation and Research Design	47	50	67	63	60	71	75	87
Patient Assessment Laboratory	53	69	95	92	37	54	74	85

*Reflects blueprint used for the 2011 PCOA administration.



Pharmacy Curriculum Outcomes Assessment[®] (PCOA[®])

Individual Score Report

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Program Year''

Test Date: Spring 2011

Major Content Areas	Scale Score	National Percentile for Your Program Year
Basic Biomedical Sciences	337	58
Pharmaceutical Sciences	418	92
Social/Behavioral/Administrative Pharmacy Sciences	368	65
Clinical Sciences	410	81
TOTAL EXAM	392	86

Scale Score: Scale scores range from 0 to 700.

National Percentiles: National Percentiles are reported in relation to the examinees in the program year (National Percentile for Your Program Year). For example, a score of 68 under the National Percentile for Your Program Year means that you scored at or higher than 68% of the examinees in your program year that took the PCOA this year.

Subtopics	% correct
Basic Biomedical Sciences	
Anatomy and Physiology	64
Pathology/Pathophysiology	88
Microbiology	50
Immunology	33
Biochemistry/Biotechnology	67
Biostatistics	25
Pharmaceutical Sciences	
Medicinal Chemistry	64
Pharmacology	60
Pharmacognosy and Alternative and Complimentary TX	50
Toxicology	0
Bioanalysis/Clinical Chemistry	100
Pharmaceutics/Biopharmaceutic	67
Pharmacokinetics/Clinical Pharmacokinetics	78
Pharmacogenomics/Genetics	100
Extemporaneous Compounding/Parenteral/Enteral	67

Subtopics	% correct
Social/Behavioral/Administrative Pharmacy Sciences	
Healthcare Delivery Systems	80
Economics/Pharmacoeconomics	33
Practice Management	57
Pharmacoepidemiology	100
Pharmacy Law and Regulatory Affairs	100
History of Pharmacy	100
Ethics	100
Professional Communications	80
Social and Behavioral Aspects of Practice	100
Clinical Sciences	
Pharmacy Practice and Pharmacist-Provided Care	79
Medication Dispensing and Distribution Systems	83
Pharmacotherapy - Practice Guidelines and Clinical Trials	63
Pharmacotherapy - Health Promotion/Disease Prevention	80
Pharmacotherapy - Pharmaceutical Care	65
Pharmacist-provided care for Special Populations	67
Drug Information	100
Medication Safety	100
Literature Evaluation and Research Design	80
Patient Assessment Laboratory	100

Subtopics: Each major content area has multiple subtopic areas. Subtopics have too few items to report scale scores reliably, so the percent correct in the subtopics are only listed. Subtopics should not be compared and the percent of items correct are reported only as a rough indicator of strengths and weaknesses.

SAMPLE



2011 National Means by Program Year

Major Content Areas - Scale Scores	Yr 1	Yr 2	Yr 3	Yr 4
Basic Biomedical Sciences	304	332	326	359
Pharmaceutical Sciences	278	316	337	365
Social/Behavioral/Administrative Pharmacy Sciences	271	315	336	378
Clinical Sciences	244	297	357	416
TOTAL EXAM	269	311	340	380

Subtopics - % Correct	Yr 1 %	Yr 2 %	Yr 3 %	Yr 4 %
Basic Biomedical Sciences				
Anatomy & Physiology	58	63	60	67
Pathology/Pathophysiology	49	59	59	72
Microbiology	50	54	56	63
Immunology	50	53	46	47
Biochemistry/Biotechnology	58	64	64	66
Biostatistics	48	54	52	59
Pharmaceutical Sciences				
Medicinal Chemistry	39	50	48	51
Pharmacology	31	40	52	64
Pharmacognosy and Alternative and Complimentary TX	36	36	40	45
Toxicology	25	34	41	50
Bioanalysis/Clinical Chemistry	43	55	71	75
Pharmaceutics/Biopharmaceutics	39	45	44	49
Pharmacokinetics/Clinical Pharmacokinetics	34	41	46	50
Pharmacogenomics/Genetics	42	62	60	70
Extemporaneous Compounding/Parenteral/Enteral	24	23	27	25
Social/Behavioral/Administrative Pharmacy Sciences				
Healthcare Delivery Systems	56	65	69	72
Economics/Pharmacoeconomics	58	59	68	70
Practice Management	49	54	59	65
Pharmacoepidemiology	51	77	79	98
Pharmacy Law and Regulatory Affairs	53	62	67	79
History of Pharmacy	56	57	69	89
Ethics	66	74	75	82
Professional Communications	72	82	81	85
Social and Behavioral Aspects of Practice	66	80	78	83
Clinical Sciences				
Pharmacy Practice and Pharmacist-Provided Care	39	49	62	76
Medication Dispensing and Distribution Systems	47	56	68	74
Pharmacotherapy - Practice Guidelines and Clinical Trials	39	54	67	74
Pharmacotherapy - Health Promotion/Disease Prevention	34	50	71	81
Pharmacotherapy - Pharmaceutical Care	35	47	58	70
Pharmacist-provided care for Special Populations	38	43	57	64
Drug Information	62	71	82	89
Medication Safety	59	62	62	64
Literature Evaluation and Research Design	60	71	75	87
Patient Assessment Laboratory	37	54	74	85

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