



NATIONAL BOARD OF MEDICAL EXAMINERS®
INTERNATIONAL FOUNDATIONS OF MEDICINE® (IFOM®)
2021 BASIC SCIENCE EXAMINATION
Score Interpretation Guide for Examinees

The NBME® International Foundations of Medicine® (IFOM®) Basic Science Examination (BSE) measures competency in the fundamental sciences relevant to the practice of medicine internationally. The emphasis is on the principles and mechanisms underlying health, disease and modes of therapy. Test material is designed to measure application of basic science knowledge in a clinical context.

IFOM BSE Scores

The IFOM BSE score is an equated percent correct score that represents mastery of the content domain assessed by the examination. It is calculated as the percentage of items in the total content domain that would be answered correctly based on an examinee's proficiency level. Scores are placed on a classic percent correct metric (0-100%) to facilitate interpretation. IFOM BSE scores are equated across test administrations and are statistically adjusted for variations in test form difficulty. Consequently, these scores can be used to compare and track performance over time.

The 2021 IFOM BSE is administered in both paper-and-pencil and web formats and is offered in Spanish and International English. Caution should be used in the interpretation of scores as the modality and language of the test administration may affect performance for some examinees.

Precision of Scores

Measurement error is present on all tests, and the standard error of measurement (SEM) provides an index of the imprecision of scores. The SEM is approximately 4 points for the IFOM BSE. Using the SEM, it is possible to calculate a score interval that indicates how much a score might vary across repeated testing using different sets of items covering similar content. An interval expected to encompass about two thirds of scores observed on repeated testing may be found by adding and subtracting the SEM from the reported score.

Interpreting IFOM BSE Scores

The IFOM BSE is used for a variety of purposes by both individuals and institutions. Individuals use IFOM BSE for several purposes, including participation in exchange programs, application for post-graduate training programs and professional positions, and self-assessment relative to international standards. Medical schools use IFOM BSE for formative and summative assessment, curriculum evaluation and international benchmarking. Post-graduate programs use IFOM BSE for selection of graduates for training. Ministries of health/education use IFOM BSE as part of assessment for regional certification.

As implied based on the variety of uses of IFOM BSE, it may be utilized for both high-stakes and low-stakes assessment purposes. The stakes for the examinee taking the IFOM BSE as well as differences in educational level, preparation and motivation may affect performance. These factors should be considered when interpreting performance and when comparing performance based on one use of IFOM BSE to performance based on a different use. These factors should also be considered when interpreting IFOM performance relative to the United States Medical Licensing Examination® (USMLE®) Step 1 performance and the Step 1 minimum passing score. Step 1 is a very high-stakes examination that is taken after intense preparation. While the IFOM BSE score of 77 that corresponds approximately to the Step 1 minimum passing score is useful as a benchmark, stakes and preparation for IFOM BSE examinees may differ substantially and should be taken into consideration when making comparisons.

International Comparison Group (ICG)

The International Comparison Group (ICG) included 6,042 examinees from Africa (7.6%), the Americas (25.3%), Asia including the Middle East (45.5%), Europe (16.5%) and Oceania (5.1%) who took the IFOM BSE in 2016-2020. The mean score of the IFOM BSE ICG was 48 and the standard deviation was 18 points. As mentioned in the previous section, IFOM BSE is utilized for a variety of assessment purposes and the stakes as well as differences in educational level, preparation and motivation may affect performance. These factors should be considered when interpreting performance relative to the ICG as most ICG examinees tested for formative or summative purposes in a low stakes context.

Examination Feedback

Each examinee is provided with a Performance Report showing the total test equated percent correct score and a Performance Profile displaying individual strengths and weaknesses for major content areas.

NBME sets a standard of competence for the IFOM BSE that approximates the Step 1 minimum passing score. The IFOM BSE score that best approximates the Step 1 minimum passing score is 77, as can be seen in the “Approximate Correspondence with USMLE® Step 1 Performance” section of this Guide. Examinees whose IFOM BSE score is 77 or higher receive a *Certification in Basic Science Knowledge* along with their score report, in recognition of this achievement.

The IFOM BSE score is not the same as, and cannot be used in place of, a Step 1 score. Examinees wishing to obtain a Step 1 score for any purpose must register for and take the USMLE® separately.

Norm Table

The norm table below may be used to compare a score on the 2021 IFOM BSE with the performance of the International Comparison Group (ICG). To determine the percentile rank in this group, locate the score in the column labeled Total Test Equated Percent Correct Score. The number that is located in the adjacent column labeled Percentile Rank indicates the percentage of participants in the ICG scoring lower than that score. Caution should be used in interpreting performance relative to this group due to differences in examinee preparation and motivation.

Norm Table Based on the IFOM BSE International Comparison Group

Total Test Equated Percent Correct Score	Percentile Rank	Total Test Equated Percent Correct Score	Percentile Rank	Total Test Equated Percent Correct Score	Percentile Rank	Total Test Equated Percent Correct Score	Percentile Rank
100	100	80	95	60	75	40	37
99	100	79	94	59	73	39	35
98	100	78	93	58	72	38	32
97	100	77	93	57	70	37	30
96	100	76	92	56	69	36	28
95	100	75	91	55	67	35	27
94	100	74	90	54	65	34	23
93	99	73	89	53	63	33	21
92	99	72	88	52	61	32	19
91	99	71	88	51	60	31	17
90	99	70	87	50	58	30	16
89	98	69	86	49	56	29	13
88	98	68	84	48	54	28	12
87	98	67	83	47	52	27	10
86	97	66	82	46	49	26	9
85	97	65	81	45	47	25	7
84	97	64	80	44	45	24	6
83	96	63	79	43	44	23	5
82	96	62	77	42	41	22	4
81	95	61	76	41	39	21 and below	3

Approximate Correspondence with USMLE® Step 1 Performance

The IFOM BSE is intended to determine an examinee's relative areas of strength and weakness in general areas of basic science, not to predict performance on the Step 1 examination, and the content covered by the two examinations is somewhat different. However, because there is substantial overlap in content coverage and many IFOM items were previously used on Step 1, it is possible to roughly project IFOM performance onto the Step 1 score scale. The table below provides this information.

To use the table, locate an IFOM score in the associated column and look up the corresponding entry in the column labeled Step 1 Scale. For example, if an examinee's score is 54, the corresponding entry of 140 indicates that the examinee's performance on the 2021 IFOM BSE corresponds approximately to a Step 1 score of 140. The IFOM BSE score is not the same as, and cannot be used in place of, a Step 1 score.

Approximate Correspondence of IFOM BSE And USMLE® Step 1 Scores							
IFOM Score	Step 1 Scale	IFOM Score	Step 1 Scale	IFOM Score	Step 1 Scale	IFOM Score	Step 1 Scale
100	274	79	199	58	147	37	108
99	271	78	197	57	146	36	106
98	268	77	194	56	143	35	105
97	266	76	191	55	142	34	103
96	255	75	188	54	140	33	101
95	252	74	185	53	138	32	100
94	250	73	182	52	136	31	98
93	246	72	180	51	134	30	96
92	242	71	178	50	132	29	95
91	238	70	176	49	130	28	93
90	234	69	173	48	128	27	92
89	231	68	170	47	126	26	90
88	228	67	168	46	123	25	89
87	223	66	166	45	122	24	87
86	220	65	163	44	121	23	86
85	217	64	161	43	119	22	85
84	215	63	159	42	117	21	83
83	211	62	157	41	115	20	81
82	208	61	154	40	113		
81	205	60	151	39	111		
80	202	59	150	38	110		

Mean Performance of examinees from U.S. and Canadian medical schools taking Step 1 for the first time in 2019 is 232.

The Step 1 Minimum Passing Score as of 1/1/2021 is 194.