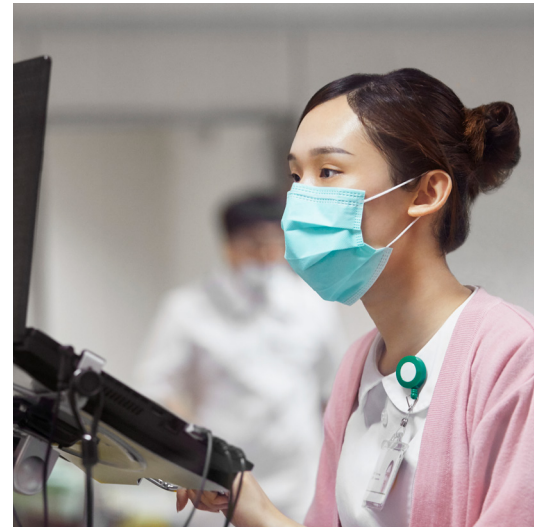


OAT Optometry Admission Test

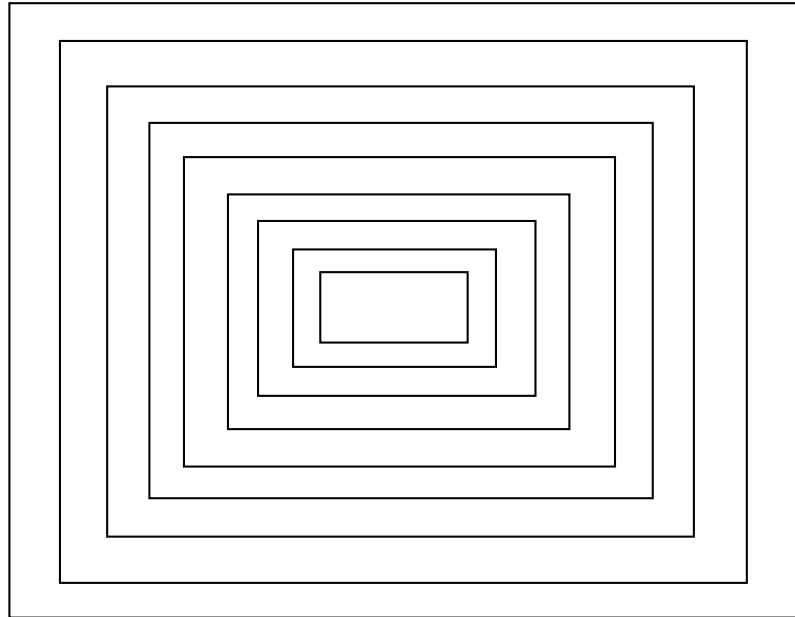


Optometry Admissions Test (OAT) 2022 User's Manual



**Optometry
Admission
Testing
Program**

**Optometry Admission Test (OAT™)
User Guide
2021 Data**



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Part One: Introduction and Background

History of the Optometry Admission Test Program

In 1987, the format of the Optometry College Admission Test (OCAT) was changed to include four tests: the Survey of the Natural Sciences (biology, general chemistry, and organic chemistry); Reading Comprehension; Physics; and Quantitative Reasoning. At that time the name of the test was changed to the Optometry Admission Test (OAT™).

The Optometry Admission Test (OAT) is administered under the auspices of the Association of Schools and Colleges of Optometry (ASCO) for applicants seeking admission to schools and colleges of optometry. This testing program is designed to measure general academic ability and comprehension of scientific information. While the majority of optometry schools in the United States and Canada require applicants to participate in the Optometry Admission Test Program, test results are only one factor considered in evaluating an applicant's potential.

Validity studies conducted by the testing program have shown that test scores in conjunction with collegiate records are useful in predicting optometry school performance. The relative importance of these predictors in the admission process is determined by each optometry school.

Content of the Optometry Admission Test

The OAT is a battery consisting of four individual tests: the Survey of the Natural Sciences, Reading Comprehension Test, Physics Test, and Quantitative Reasoning Test.

The Survey of the Natural Sciences is an achievement test covering content from first-year courses in Biology, General Chemistry, and Organic Chemistry. The 90-minute test contains a total of 100 items, including 40 Biology items, 30 General Chemistry items, and 30 Organic Chemistry items. The three subtests are subdivided into several topic areas.

The Reading Comprehension Test consists of three reading passages, each of which varies in length from 1,000 to 1,500 words. Each passage is accompanied by 12 to 20 items which relate to the concepts and ideas developed in the corresponding passage. There are a total of 50 items divided among the three passages. The subject matter of these passages is drawn from aspects of the basic sciences. The time limit for the test is 60 minutes.

The Physics Test is an achievement test covering content from a two-semester physics course. It is a 50-minute test containing 40 items.

The Quantitative Reasoning Test measures an examinee's ability to reason with numbers and work intelligently with quantitative materials. This 45-minute test contains 40 items.

Additional content specifications for these four tests are presented in Part Three of this *User Guide*. Sample test material can be found at oat.ada.org.

Test Construction

Test construction for the OAT is a complex, multi-step process. Undergraduate faculty specializing in each of these disciplines develop new items for the Survey of the Natural Sciences, Physics, and Quantitative Reasoning Tests. Test Construction Teams (TCTs) specific to each discipline review new items for accuracy and relevance. Items that pass this initial review process are then pre-tested. After pretesting, the appropriate TCT reviews item content and performance, and, if necessary, revises the content to meet psychometric standards established for the test. Faculty develop the topics for new Reading Comprehension Test passages and work with writers to develop the passages and accompanying items. New reading passages undergo the same review and pretesting process as other test items.

TCTs and trained psychometricians select the items to be included on each edition of the test, based on content specifications and various standards of item quality. Item quality is determined by an item's performance when administered to examinees. Two statistics in particular are of chief interest: the difficulty of the item and its discrimination index.

Item difficulty is measured by the percent of individuals who answered the item correctly. The difficulty level of the item is thus inversely related to the percentage of examinees who answer the item correctly. As the percentage of examinees who answer the item correctly increases, the difficulty of the item decreases. The recommended item-difficulty level for OAT items ranges from 40 percent to 89 percent.

The discrimination index is a point-biserial correlation coefficient, where the coefficient associated with an item represents the correlation between scores on that item and the total score on that particular test. A low correlation coefficient, such as 0.01, would indicate the average test score of individuals who answered the item correctly was roughly the same as the average score of individuals who answered the item incorrectly. In this case, item performance would be unrelated to overall test performance, thus indicating that the item does not discriminate and should therefore be discarded. A higher correlation coefficient, such as .45, would indicate the item is effective at discriminating between high scoring and low scoring examinees. Items with higher discrimination index values are more useful in determining a rank order of examinees according to the ability being measured. Test construction teams revise or discard items with insufficient discrimination indices.

Interpreting OAT Scores

Each test in the OAT battery yields a raw score, which is the sum of an examinee's correct answers. The raw score is converted to a scale score which can range from 200 to 400. Using scale scores it is possible to compare the performance of examinees who attempted different editions of the examination.

In addition to the scale scores provided for each test, scale scores are also reported to represent overall performance across the science tests, and overall performance in academic areas appearing on the OAT. The total science score is based on the raw scores for the 100 items from the Survey of the Natural Sciences — including Biology, General Chemistry, and Organic Chemistry — and the 40 Physics items. The academic average is a composite score computed from the mean of the Quantitative Reasoning, Reading Comprehension, Biology, General Chemistry, Organic Chemistry, and Physics standard scores. If an examinee does not take a section of the test, they would receive a raw score of zero and a standard score of 200 on that section.

Ideally, the mean score for each test on the OAT would always be exactly 300, assuming a comparably skilled set of examinees is completing the test. However, in any large scale testing program, some variation in scores is inevitable; therefore the amount of drift from the ideal mean of 300 is constantly monitored. The OAT Program provides frequency tables for each OAT subtest semi-annually. This information provides guidance in interpreting the scores and insight into any drift from the expected mean score of 300. For example, in the frequency tables for January 2009 to April 2009, the mean scores were 309 for Biology, 309 for General Chemistry, 316.1 for Organic Chemistry, 302.7 for Reading Comprehension, 322 for Quantitative Reasoning, and 299.6 for Physics.

As part of the ongoing validation process for the OAT, ASCO requested the OAT scale be recalibrated so the mean scale score would return to 300 with a standard deviation of 40. The data for this recalibration study was based on a “reference group” of examinees taking the OAT for the first time in 2008. The rescaling for each subtest on the OAT was accomplished through the use of the Rasch model, which takes both examinee ability and item difficulty into account. The score scales for all OAT subtests were recalibrated and the new scale score of 300 took effect May 1, 2009.

The new scale had the following major implications for OAT scores:

- Scores obtained under the new and old scales were not directly comparable. A score of 300 on the old scale, for example, does not have the same conceptual meaning as a score of 300 on the new scale.
- When reviewing examinees’ scores, the date the test was taken and differences in the scale should be considered.
- The recalibration did not change the OAT’s difficulty. Scores achieved after May 1, 2009 might be somewhat lower than those achieved prior to the recalibration date because the mean score was set back to be as close as possible to 300. This does not indicate a change in test takers’ skill levels.
- Scores achieved prior to May 2009 can be compared with other scores from within that time period, and scores achieved after May 2009 are comparable with other scores from the same period. However, scores from different time periods (e.g., scores from May 2008 vs. scores from May 2010) are not considered directly comparable.
 - For example, an examinee who tests in May 2009 and December 2009 will be scored on the same score scale, and the two sets of scores can be directly compared.
 - The scores of an examinee who tested in January 2009 and retested in July 2009 should not be directly compared, because the test’s scale scores were different in the two time periods.
 - When comparing scores involving two or more examinees, take care to determine whether the scores are from a comparable period.

Information on the details of this change was distributed to all optometry schools, pre-health education advisors, and potential examinees in March of 2009. Frequency distributions, or percentile equivalents of scale scores, for the new OAT subtest scales were generated, and the means and standard deviations for the scale scores were computed.

Evaluation of the Optometry Admission Test Program

When considering an examination's effectiveness, two basic psychometric aspects of tests—reliability and validity must be considered.

Reliability is the precision or consistency of the assessment. For the OAT Program, a measure of internal consistency reliability, KR-20, is calculated for each scale (with the exception of the Academic Average for which a composite reliability estimate is determined). Table 1 lists reliability estimates based on administrations of the OAT occurring in 2021, along with the standard error of measurement (SEM) and additional descriptive statistics.

To ensure the OAT is capable of fulfilling its purpose, it is essential to understand the content and predictive validity evidence available for each section of the test. For the OAT, Test Construction Team members determine the content validity. These individuals are experts in the subject areas corresponding to their team. For the Reading Comprehension Test, published writers typically possessing a minimum of a master's degree in writing or the sciences and educational writing experience produce the passages. TCTs review the passages to ensure the content is appropriate for admission testing purposes and consistent with reading requirements for first-year students pursuing advanced degrees in health care.

Predictive validity is assessed by examining correlations among OAT scores and students' grades in their first and second years of optometry school. The predictive power of the OAT varies from school to school and from one OAT section to another. The *OAT Validity Study* report provides detailed information on this topic, and is available at ADA.org/OAT. Validity is also addressed in the article, *Validity of the Optometry Admission Test in Predicting Performance in Schools and Colleges of Optometry* (Kramer & Johnston, 1997).

Introduction to the Tables

The tables in this report describe performance on the OAT by gender (Tables 2-9), ethnic identification (Tables 10-17), and Hispanic origin (Table 18).

The data in the tables is based on examinees who answered the questions on gender and ethnic identification. Not all examinees chose to answer these demographic questions. The total count for each table varies because some examinees chose not to answer the questions, but the percentages will add up to 100% because the data is based solely on respondents. The columns for gender, ethnicity, Hispanic origin, total percentage, and total count can be added vertically. The statistics in the tables in this User Guide were based on all participating examinees.

The OAT Program publishes an *OAT Candidate Guide* each year with information about the testing policies, procedures, and eligibility requirements for the calendar year. For additional information concerning the requirements that were applicable to the tested group, please consult the *OAT Candidate Guide* which is available at oat.ada.org.

References

Kramer, G.A. & Johnston, J. (1997). Validity of the Optometry Admission Test in predicting performance in schools and colleges of optometry. *Optometric Education*, 22(2), 53-59.

Part Two: 2021 Data Tables

Table 1
Overall Descriptive Statistics
2021

N = 3,102	Number of Items	Scale Score			Reliability
		Mean	S.D.	SEM	
Quantitative Reasoning	40	317.1	48.10	18.00	0.86
Reading Comprehension	50	324.5	43.40	17.89	0.83
Biology	40	303.0	50.78	19.67	0.85
General Chemistry	30	301.5	46.66	20.34	0.81
Organic Chemistry	30	395.5	49.23	18.42	0.86
Physics	40	281.8	45.30	16.95	0.86
Total Science	140	293.4	48.76	10.90	0.95
Academic Average	230	304.6	39.11	7.82	0.96

N – Number of participants. S.D. – Standard deviation. S.E.M. – Standard Error of Measurement.

Table 2
Optometry Admission Test
2021
Biology Score by Gender

Score	Females	Males	Total	Count
200	2.5%	1.7%	2.3%	71
210	2.1%	1.3%	1.9%	59
220	1.8%	0.7%	1.5%	47
230	3.6%	2.7%	3.3%	102
240	4.8%	3.7%	4.5%	139
250	5.0%	4.9%	5.0%	153
260	6.4%	4.8%	6.0%	184
270	8.1%	5.9%	7.5%	231
280	6.3%	6.6%	6.4%	197
290	7.7%	7.2%	7.5%	232
300	6.0%	6.0%	6.0%	185
310	8.1%	8.6%	8.3%	254
320	6.0%	4.7%	5.7%	175
330	6.1%	6.8%	6.3%	194
340	4.6%	7.5%	5.4%	165
350	4.8%	6.0%	5.1%	157
360	5.0%	5.8%	5.2%	160
370	2.4%	2.7%	2.5%	77
380	2.0%	2.7%	2.2%	68
390	1.8%	1.7%	1.8%	54
400	4.8%	8.0%	5.6%	173
Percentage	73.06%	26.94%	100.00%	3077
Mean	299.98	310.98	302.94	
SD	50.54	50.57	50.78	
Count	2248	829	3077	

Table 3
Optometry Admission Test
2021
General Chemistry Score by Gender

Score	Females	Males	Total	Count
200	1.6%	1.1%	1.4%	44
210	1.2%	0.6%	1.0%	31
220	2.5%	0.8%	2.1%	64
230	2.9%	2.4%	2.8%	86
240	4.0%	1.9%	3.5%	107
250	6.1%	3.3%	5.4%	165
260	6.9%	5.2%	6.4%	198
270	8.0%	6.9%	7.7%	237
280	6.5%	7.0%	6.7%	205
290	9.3%	8.8%	9.2%	282
300	8.9%	10.4%	9.3%	286
310	8.9%	8.9%	8.9%	274
320	6.5%	5.8%	6.3%	194
330	5.2%	7.6%	5.8%	179
340	5.6%	7.0%	6.0%	185
350	3.0%	3.1%	3.1%	94
360	4.1%	5.5%	4.5%	138
370	1.9%	3.0%	2.2%	67
380	1.7%	1.9%	1.8%	54
390	1.5%	2.4%	1.7%	53
400	3.6%	6.3%	4.4%	134
Percentage	73.06%	26.94%	100.00%	3077
Mean	298.02	310.93	301.49	
SD	46.34	46.15	46.64	
Count	2248	829	3077	

Table 4
Optometry Admission Test
2021
Organic Chemistry Score by Gender

Score	Females	Males	Total	Count
200	1.9%	2.4%	2.0%	62
210	1.4%	1.3%	1.4%	42
220	2.9%	2.1%	2.7%	83
230	5.4%	2.8%	4.7%	145
240	5.6%	4.2%	5.2%	161
250	5.6%	5.3%	5.5%	170
260	8.8%	8.6%	8.7%	269
270	6.7%	5.1%	6.2%	192
280	9.3%	9.7%	9.4%	290
290	7.9%	8.4%	8.1%	248
300	6.2%	5.7%	6.0%	186
310	7.3%	6.3%	7.1%	217
320	5.9%	5.4%	5.8%	177
330	4.5%	5.2%	4.7%	144
340	4.1%	5.3%	4.4%	136
350	4.0%	4.6%	4.2%	128
360	3.9%	4.2%	4.0%	123
370	2.2%	2.7%	2.3%	71
380	1.4%	2.9%	1.8%	55
390	1.8%	2.7%	2.0%	62
400	3.2%	5.3%	3.8%	116
Percentage	73.06%	26.94%	100.00%	3077
Mean	293.07	301.99	295.47	
SD	48.28	51.15	49.22	
Count	2248	829	3077	

Table 5
Optometry Admission Test
2021
Reading Comprehension Score by Gender

Score	Females	Males	Total	Count
200	0.2%	0.1%	0.2%	6
210	0.2%	0.1%	0.2%	6
220	0.6%	0.7%	0.6%	19
230	0.7%	0.2%	0.6%	17
240	1.6%	1.1%	1.5%	45
250	2.5%	1.6%	2.2%	69
260	4.0%	2.7%	3.6%	112
270	5.1%	4.9%	5.0%	155
280	5.5%	5.5%	5.5%	170
290	5.8%	6.3%	5.9%	183
300	9.3%	8.8%	9.1%	281
310	8.7%	6.5%	8.1%	249
320	8.1%	7.1%	7.8%	240
330	8.1%	9.2%	8.4%	257
340	7.3%	7.2%	7.2%	223
350	9.1%	10.7%	9.6%	294
360	5.7%	5.5%	5.7%	175
370	3.6%	3.7%	3.6%	111
380	4.5%	5.8%	4.9%	150
390	2.5%	3.0%	2.7%	82
400	7.0%	9.0%	7.6%	233
Percentage	73.06%	26.94%	100.00%	3077
Mean	322.86	328.73	324.44	
SD	43.39	43.06	43.37	
Count	2248	829	3077	

Table 6
Optometry Admission Test
2021
Physics Score by Gender

Score	Females	Males	Total	Count
200	2.9%	1.9%	2.6%	81
210	2.6%	1.9%	2.4%	75
220	4.1%	1.7%	3.5%	107
230	7.7%	5.2%	7.0%	215
240	6.9%	3.7%	6.0%	186
250	10.2%	8.0%	9.6%	296
260	9.5%	8.3%	9.2%	283
270	6.7%	7.7%	7.0%	215
280	9.6%	10.0%	9.7%	299
290	7.4%	5.4%	6.9%	211
300	6.9%	7.0%	7.0%	214
310	6.8%	8.3%	7.2%	222
320	4.2%	4.6%	4.3%	133
330	3.9%	5.2%	4.2%	130
340	3.6%	6.4%	4.3%	133
350	1.4%	2.2%	1.6%	50
360	1.5%	3.6%	2.1%	64
370	0.9%	1.6%	1.1%	34
380	1.5%	2.8%	1.8%	56
390	0.8%	1.1%	0.9%	28
400	0.8%	3.4%	1.5%	45
Percentage	73.06%	26.94%	100.00%	3077
Mean	277.42	293.73	281.81	
SD	43.41	47.93	45.25	
Count	2248	829	3077	

Table 7
Optometry Admission Test
2021
Quantitative Reasoning Score by Gender

Score	Females	Males	Total	Count
200	0.5%	0.4%	0.5%	14
210	0.6%	0.4%	0.5%	16
220	1.4%	0.4%	1.1%	34
230	1.5%	0.8%	1.3%	40
240	3.1%	1.3%	2.6%	81
250	3.4%	2.1%	3.0%	93
260	7.2%	2.7%	5.9%	183
270	5.7%	3.7%	5.2%	159
280	8.5%	7.5%	8.3%	254
290	6.5%	5.7%	6.3%	194
300	9.2%	6.8%	8.5%	262
310	7.0%	8.2%	7.3%	226
320	7.7%	7.4%	7.6%	233
330	6.1%	6.6%	6.3%	193
340	5.8%	5.5%	5.8%	177
350	5.8%	6.5%	6.0%	185
360	5.1%	8.1%	5.9%	181
370	3.2%	4.0%	3.4%	104
380	1.9%	2.2%	1.9%	60
390	3.0%	5.3%	3.6%	111
400	6.9%	14.6%	9.0%	277
Percentage	73.06%	26.94%	100.00%	3077
Mean	312.06	330.87	317.12	
SD	47.32	47.48	48.08	
Count	2248	829	3077	

Table 8
Optometry Admission Test
2021
Total Science Score by Gender

Score	Females	Males	Total	Count
200	1.9%	0.7%	1.6%	49
210	1.8%	1.8%	1.8%	55
220	4.0%	2.2%	3.5%	108
230	5.6%	2.7%	4.8%	147
240	6.4%	4.7%	5.9%	183
250	6.8%	5.2%	6.4%	196
260	7.8%	5.9%	7.3%	224
270	7.5%	8.4%	7.8%	239
280	7.7%	7.6%	7.7%	236
290	8.1%	8.2%	8.1%	249
300	6.9%	6.8%	6.9%	211
310	6.2%	5.3%	5.9%	183
320	5.6%	6.9%	6.0%	184
330	5.6%	6.4%	5.8%	178
340	4.4%	4.7%	4.5%	139
350	3.2%	4.5%	3.5%	108
360	3.5%	4.9%	3.9%	119
370	1.6%	2.7%	1.9%	58
380	1.6%	2.8%	1.9%	60
390	1.3%	2.2%	1.6%	48
400	2.5%	5.5%	3.3%	103
Percentage	73.06%	26.94%	100.00%	3077
Mean	289.46	303.88	293.35	
SD	47.80	49.78	48.76	
Count	2248	829	3077	

Table 9
Optometry Admission Test
2021
Academic Average Score by Gender

Score	Females	Males	Total	Count
200	0.0%	0.0%	0.0%	0
210	0.2%	0.0%	0.1%	4
220	0.7%	0.4%	0.6%	19
230	1.6%	0.7%	1.4%	42
240	3.2%	2.1%	2.9%	88
250	5.6%	3.6%	5.1%	157
260	8.3%	3.5%	7.0%	215
270	8.0%	6.9%	7.7%	237
280	9.3%	8.1%	9.0%	277
290	9.7%	9.0%	9.5%	292
300	9.3%	9.2%	9.2%	284
310	9.8%	9.5%	9.7%	299
320	7.2%	8.7%	7.6%	234
330	6.2%	7.2%	6.5%	199
340	6.0%	6.9%	6.2%	191
350	4.9%	7.2%	5.6%	171
360	3.7%	6.2%	4.4%	135
370	2.7%	4.1%	3.1%	94
380	2.3%	3.4%	2.6%	80
390	1.1%	2.4%	1.4%	44
400	0.3%	1.0%	0.5%	15
Percentage	73.06%	26.94%	100.00%	3077
Mean	301.25	313.81	304.63	
SD	38.57	39.04	39.09	
Count	2248	829	3077	

Table 10
Optometry Admission Test
2021
Biology Score by Ethnic Identification

Score	Native American	Asian	Black	Pacific Islander	White	Multi	Total	Count
200	0.0%	2.3%	1.8%	16.7%	1.9%	3.1%	2.2%	65
210	8.7%	1.2%	4.3%	0.0%	1.9%	3.1%	2.0%	58
220	13.0%	1.0%	0.0%	0.0%	1.6%	2.3%	1.5%	43
230	8.7%	2.7%	3.7%	0.0%	3.0%	5.7%	3.3%	98
240	0.0%	2.4%	7.3%	16.7%	4.8%	7.7%	4.5%	132
250	4.3%	4.7%	4.9%	0.0%	4.8%	6.6%	4.9%	146
260	8.7%	4.6%	9.8%	16.7%	5.9%	7.4%	5.9%	174
270	21.7%	5.7%	11.6%	16.7%	7.9%	8.0%	7.5%	221
280	4.3%	5.4%	6.7%	0.0%	6.4%	7.7%	6.2%	184
290	0.0%	7.0%	6.1%	0.0%	8.1%	8.5%	7.6%	224
300	8.7%	6.2%	11.0%	0.0%	5.5%	5.7%	6.1%	180
310	4.3%	8.8%	9.1%	0.0%	8.5%	6.6%	8.4%	248
320	8.7%	6.0%	4.9%	16.7%	5.9%	4.3%	5.7%	170
330	4.3%	6.9%	7.3%	0.0%	6.4%	4.0%	6.3%	186
340	0.0%	6.3%	3.0%	0.0%	5.3%	4.3%	5.4%	159
350	0.0%	6.2%	2.4%	16.7%	4.8%	5.1%	5.2%	154
360	4.3%	6.6%	2.4%	0.0%	5.3%	4.0%	5.4%	160
370	0.0%	3.3%	0.6%	0.0%	2.5%	1.4%	2.5%	75
380	0.0%	2.1%	1.2%	0.0%	2.2%	1.7%	2.1%	61
390	0.0%	2.6%	0.0%	0.0%	1.7%	0.6%	1.8%	53
400	0.0%	7.8%	1.8%	0.0%	5.5%	2.3%	5.6%	167
Percentage	0.78%	34.79%	5.54%	0.20%	46.82%	11.87%	100.00%	2958
Mean	268.70	312.73	286.83	273.33	303.20	287.12	303.37	
SD	41.92	50.98	42.51	54.28	50.16	48.54	50.66	
Count	23	1029	164	6	1385	351	2958	

Table 11
Optometry Admission Test
2021
General Chemistry Score by Ethnic Identification

Score	Native American	Asian	Black	Pacific Islander	White	Multi	Total	Count
200	0.0%	0.7%	3.0%	16.7%	1.2%	2.8%	1.4%	40
210	4.3%	0.4%	2.4%	0.0%	1.2%	0.9%	1.0%	29
220	13.0%	1.2%	6.1%	0.0%	1.8%	3.1%	2.1%	61
230	0.0%	1.8%	4.9%	16.7%	2.7%	5.1%	2.8%	84
240	4.3%	2.8%	2.4%	16.7%	3.1%	7.1%	3.5%	103
250	13.0%	4.1%	8.5%	0.0%	5.2%	7.7%	5.3%	158
260	17.4%	6.0%	8.5%	16.7%	6.1%	6.8%	6.4%	189
270	8.7%	5.6%	10.4%	0.0%	7.4%	11.4%	7.4%	220
280	13.0%	5.2%	6.7%	16.7%	7.4%	7.7%	6.7%	197
290	0.0%	7.7%	13.4%	0.0%	10.6%	6.6%	9.2%	271
300	0.0%	9.3%	5.5%	0.0%	9.7%	10.0%	9.3%	275
310	13.0%	8.7%	8.5%	0.0%	9.1%	8.8%	8.9%	264
320	0.0%	6.8%	5.5%	0.0%	6.2%	6.0%	6.3%	186
330	4.3%	6.3%	4.3%	16.7%	6.3%	4.3%	5.9%	176
340	4.3%	6.6%	3.7%	0.0%	6.6%	4.0%	6.1%	180
350	4.3%	4.1%	1.8%	0.0%	2.9%	2.0%	3.1%	93
360	0.0%	7.0%	1.8%	0.0%	3.6%	3.1%	4.6%	136
370	0.0%	2.9%	0.6%	0.0%	2.4%	0.3%	2.2%	65
380	0.0%	2.6%	1.2%	0.0%	1.4%	1.1%	1.8%	52
390	0.0%	2.5%	0.0%	0.0%	1.8%	0.3%	1.8%	52
400	0.0%	7.6%	0.6%	0.0%	3.2%	0.9%	4.3%	127
Percentage	0.78%	34.79%	5.54%	0.20%	46.82%	11.87%	100.00%	2958
Mean	270.87	314.12	280.24	256.67	300.56	283.87	301.85	
SD	39.07	47.67	41.61	45.02	44.64	41.74	46.56	
Count	23	1029	164	6	1385	351	2958	

Table 12
Optometry Admission Test
2021
Organic Chemistry Score by Ethnic Identification

Score	Native American	Asian	Black	Pacific Islander	White	Multi	Total	Count
200	4.3%	1.4%	3.0%	0.0%	1.6%	4.8%	2.0%	59
210	0.0%	1.1%	1.2%	0.0%	1.4%	2.0%	1.4%	40
220	0.0%	2.3%	4.3%	16.7%	3.0%	2.0%	2.7%	80
230	4.3%	3.4%	7.9%	0.0%	4.7%	6.6%	4.6%	137
240	26.1%	4.4%	6.1%	0.0%	5.0%	6.0%	5.1%	151
250	8.7%	3.8%	9.1%	0.0%	5.8%	8.8%	5.6%	167
260	8.7%	6.7%	9.8%	16.7%	10.1%	8.8%	8.8%	259
270	4.3%	5.9%	4.9%	33.3%	6.9%	5.1%	6.3%	185
280	17.4%	8.5%	11.6%	16.7%	9.9%	8.5%	9.4%	278
290	4.3%	6.6%	9.8%	0.0%	8.2%	9.7%	7.9%	233
300	13.0%	6.2%	7.3%	0.0%	4.9%	8.5%	6.0%	177
310	0.0%	7.0%	5.5%	0.0%	7.4%	6.8%	7.0%	207
320	0.0%	6.5%	4.3%	0.0%	5.8%	5.7%	5.9%	174
330	4.3%	4.5%	3.0%	0.0%	5.3%	4.0%	4.7%	139
340	4.3%	5.2%	2.4%	16.7%	4.7%	2.8%	4.6%	135
350	0.0%	6.3%	1.8%	0.0%	3.2%	4.0%	4.3%	126
360	0.0%	5.8%	2.4%	0.0%	3.1%	2.8%	4.0%	117
370	0.0%	2.7%	1.2%	0.0%	2.5%	0.9%	2.3%	68
380	0.0%	2.5%	1.2%	0.0%	1.7%	0.6%	1.8%	53
390	0.0%	3.4%	2.4%	0.0%	1.4%	0.6%	2.1%	61
400	0.0%	5.7%	0.6%	0.0%	3.5%	0.9%	3.8%	112
Percentage	0.78%	34.79%	5.54%	0.20%	46.82%	11.87%	100.00%	2958
Mean	266.96	306.92	280.30	273.33	293.42	281.71	295.75	
SD	33.50	51.14	44.86	38.82	47.89	44.23	49.26	
Count	23	1029	164	6	1385	351	2958	

Table 13
Optometry Admission Test
2021
Reading Comprehension Score by Ethnic Identification

Score	Native American	Asian	Black	Pacific Islander	White	Multi	Total	Count
200	0.0%	0.2%	0.0%	0.0%	0.1%	0.3%	0.2%	5
210	0.0%	0.4%	0.0%	0.0%	0.0%	0.3%	0.2%	5
220	0.0%	0.8%	0.6%	0.0%	0.3%	2.0%	0.7%	20
230	4.3%	0.4%	1.2%	0.0%	0.5%	0.9%	0.6%	17
240	0.0%	1.2%	6.1%	0.0%	0.8%	2.6%	1.4%	42
250	4.3%	2.3%	4.3%	0.0%	1.7%	2.6%	2.2%	65
260	0.0%	2.8%	5.5%	16.7%	3.5%	5.4%	3.6%	106
270	8.7%	4.8%	7.9%	16.7%	3.8%	7.1%	4.8%	143
280	4.3%	6.9%	7.3%	16.7%	3.8%	5.1%	5.2%	155
290	4.3%	5.4%	6.1%	0.0%	6.4%	4.8%	5.8%	172
300	26.1%	8.1%	14.6%	0.0%	7.7%	14.0%	9.1%	269
310	0.0%	7.9%	12.8%	0.0%	8.1%	7.7%	8.1%	241
320	13.0%	8.1%	7.9%	16.7%	7.8%	7.4%	7.9%	234
330	13.0%	8.0%	7.9%	0.0%	9.4%	6.0%	8.4%	249
340	4.3%	6.5%	2.4%	33.3%	8.7%	5.4%	7.2%	213
350	0.0%	9.7%	6.1%	0.0%	9.8%	11.7%	9.7%	287
360	4.3%	6.2%	3.7%	0.0%	5.8%	4.6%	5.7%	168
370	0.0%	3.9%	0.6%	0.0%	4.4%	2.0%	3.7%	109
380	8.7%	6.1%	1.8%	0.0%	4.8%	3.4%	5.0%	147
390	0.0%	2.6%	1.2%	0.0%	3.3%	1.7%	2.7%	81
400	4.3%	7.8%	1.8%	0.0%	9.2%	5.1%	7.8%	230
Percentage	0.78%	34.79%	5.54%	0.20%	46.82%	11.87%	100.00%	2958
Mean	313.04	325.96	302.50	301.67	330.26	314.22	325.13	
SD	41.39	43.87	38.60	36.01	41.99	44.26	43.37	
Count	23	1029	164	6	1385	351	2958	

Table 14
Optometry Admission Test
2021
Physics Score by Ethnic Identification

Score	Native American	Asian	Black	Pacific Islander	White	Multi	Total	Count
200	4.3%	2.0%	3.7%	0.0%	1.9%	5.4%	2.5%	74
210	13.0%	2.5%	2.4%	16.7%	1.9%	3.4%	2.4%	72
220	4.3%	2.0%	6.7%	16.7%	3.0%	7.1%	3.4%	101
230	8.7%	4.7%	12.2%	0.0%	7.4%	10.0%	7.0%	207
240	4.3%	3.3%	10.4%	0.0%	6.9%	9.4%	6.1%	181
250	26.1%	8.6%	13.4%	16.7%	8.6%	13.1%	9.5%	282
260	8.7%	7.2%	6.1%	16.7%	10.9%	8.0%	9.0%	266
270	0.0%	8.0%	7.3%	0.0%	6.7%	5.4%	7.0%	206
280	4.3%	9.6%	13.4%	16.7%	9.7%	9.7%	9.8%	291
290	4.3%	7.3%	7.9%	16.7%	6.5%	6.6%	6.9%	203
300	8.7%	8.0%	4.9%	0.0%	6.5%	8.3%	7.1%	211
310	13.0%	7.2%	4.3%	0.0%	8.4%	4.6%	7.3%	217
320	0.0%	4.5%	1.2%	0.0%	5.1%	2.8%	4.3%	128
330	0.0%	5.2%	1.2%	0.0%	4.7%	2.0%	4.3%	128
340	0.0%	5.8%	2.4%	0.0%	4.0%	1.7%	4.2%	125
350	0.0%	2.7%	0.6%	0.0%	1.4%	0.0%	1.6%	48
360	0.0%	3.4%	0.0%	0.0%	1.4%	1.4%	2.0%	60
370	0.0%	1.7%	0.0%	0.0%	1.1%	0.6%	1.1%	34
380	0.0%	2.6%	1.2%	0.0%	1.7%	0.3%	1.8%	54
390	0.0%	1.7%	0.0%	0.0%	0.6%	0.3%	0.9%	27
400	0.0%	2.0%	0.6%	0.0%	1.5%	0.0%	1.5%	43
Percentage	0.78%	34.79%	5.54%	0.20%	46.82%	11.87%	100.00%	2958
Mean	255.22	292.31	263.11	251.67	282.01	263.28	282.06	
SD	35.02	47.11	37.21	31.89	43.74	38.57	45.12	
Count	23	1029	164	6	1385	351	2958	

Table 15
Optometry Admission Test
2021
Quantitative Reasoning Score by Ethnic Identification

Score	Native American	Asian	Black	Pacific Islander	White	Multi	Total	Count
200	4.3%	0.5%	1.2%	0.0%	0.1%	1.1%	0.4%	13
210	8.7%	0.5%	0.0%	0.0%	0.1%	1.4%	0.5%	14
220	0.0%	0.8%	3.7%	0.0%	0.6%	3.1%	1.1%	34
230	0.0%	0.8%	3.7%	0.0%	0.9%	2.6%	1.2%	35
240	4.3%	2.0%	5.5%	16.7%	1.4%	6.6%	2.5%	75
250	8.7%	2.5%	9.1%	16.7%	2.0%	3.7%	2.9%	85
260	0.0%	5.0%	12.8%	0.0%	4.9%	8.5%	5.7%	170
270	17.4%	4.0%	8.5%	0.0%	4.5%	7.7%	5.0%	149
280	4.3%	7.6%	12.2%	16.7%	7.5%	11.4%	8.2%	244
290	4.3%	5.2%	9.8%	0.0%	6.6%	5.7%	6.2%	183
300	17.4%	8.0%	9.8%	0.0%	8.2%	10.8%	8.6%	254
310	13.0%	6.1%	4.3%	0.0%	8.3%	8.3%	7.3%	217
320	4.3%	7.7%	7.3%	16.7%	8.2%	5.7%	7.7%	227
330	4.3%	6.1%	2.4%	16.7%	7.5%	2.8%	6.2%	183
340	4.3%	6.2%	2.4%	0.0%	6.7%	4.0%	5.9%	176
350	0.0%	7.6%	3.7%	16.7%	6.0%	4.8%	6.3%	185
360	0.0%	6.2%	0.6%	0.0%	7.5%	2.3%	6.0%	177
370	0.0%	4.2%	0.6%	0.0%	3.8%	1.4%	3.4%	102
380	0.0%	2.8%	0.6%	0.0%	1.9%	0.6%	2.0%	58
390	0.0%	4.1%	0.6%	0.0%	3.9%	3.4%	3.7%	109
400	4.3%	12.1%	1.2%	0.0%	9.1%	4.0%	9.1%	268
Percentage	0.78%	34.79%	5.54%	0.20%	46.82%	11.87%	100.00%	2958
Mean	283.91	325.20	282.80	295.00	323.00	295.64	317.93	
SD	45.80	48.64	38.25	45.06	44.76	47.27	47.88	
Count	23	1029	164	6	1385	351	2958	

Table 16
Optometry Admission Test
2021
Total Science Score by Ethnic Identification

Score	Native American	Asian	Black	Pacific Islander	White	Multi	Total	Count
200	4.3%	1.7%	3.0%	16.7%	1.1%	2.0%	1.6%	47
210	8.7%	1.1%	1.2%	0.0%	1.7%	3.7%	1.8%	52
220	8.7%	2.5%	6.1%	0.0%	3.0%	6.3%	3.4%	101
230	8.7%	2.7%	11.6%	16.7%	4.2%	9.1%	4.7%	140
240	8.7%	3.4%	6.7%	0.0%	6.6%	9.7%	5.8%	173
250	8.7%	4.9%	6.7%	0.0%	7.0%	8.5%	6.4%	190
260	17.4%	6.0%	7.9%	33.3%	7.5%	8.0%	7.2%	213
270	8.7%	7.4%	10.4%	0.0%	7.7%	6.3%	7.5%	223
280	4.3%	6.6%	11.0%	16.7%	8.3%	7.4%	7.7%	229
290	0.0%	7.9%	9.1%	0.0%	8.6%	7.1%	8.1%	240
300	0.0%	6.6%	7.9%	0.0%	7.2%	6.8%	6.9%	205
310	4.3%	6.5%	3.7%	0.0%	6.4%	4.0%	5.9%	176
320	13.0%	5.6%	3.7%	16.7%	6.0%	7.7%	6.0%	178
330	0.0%	7.9%	4.3%	0.0%	5.0%	4.8%	5.9%	174
340	4.3%	5.4%	0.6%	0.0%	4.9%	3.4%	4.7%	138
350	0.0%	4.4%	2.4%	0.0%	4.0%	0.9%	3.6%	107
360	0.0%	5.4%	0.6%	0.0%	3.8%	2.0%	3.9%	116
370	0.0%	3.1%	0.6%	0.0%	1.4%	0.9%	1.9%	56
380	0.0%	3.2%	1.2%	0.0%	1.3%	0.6%	1.9%	55
390	0.0%	2.5%	0.0%	0.0%	1.5%	0.0%	1.6%	47
400	0.0%	5.1%	1.2%	0.0%	3.0%	0.9%	3.3%	98
Percentage	0.78%	34.79%	5.54%	0.20%	46.82%	11.87%	100.00%	2958
Mean	259.57	306.00	272.93	258.33	292.70	274.22	293.71	
SD	39.83	50.24	41.24	41.19	46.85	43.14	48.65	
Count	23	1029	164	6	1385	351	2958	

Table 17
Optometry Admission Test
2021
Academic Average Score by Ethnic Identification

Score	Native American	Asian	Black	Pacific Islander	White	Multi	Total	Count
200	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
210	0.0%	0.2%	0.0%	0.0%	0.1%	0.3%	0.1%	4
220	4.3%	0.5%	1.8%	16.7%	0.3%	1.4%	0.6%	19
230	8.7%	1.4%	0.0%	0.0%	1.1%	2.6%	1.4%	40
240	0.0%	2.0%	6.7%	0.0%	2.0%	5.7%	2.7%	80
250	13.0%	3.1%	11.0%	16.7%	4.5%	8.5%	5.0%	147
260	13.0%	4.9%	15.2%	0.0%	6.0%	12.5%	6.9%	205
270	13.0%	6.1%	8.5%	16.7%	7.5%	10.5%	7.5%	222
280	13.0%	7.4%	11.6%	0.0%	9.5%	9.1%	8.8%	261
290	13.0%	8.9%	12.2%	33.3%	9.5%	9.1%	9.5%	281
300	0.0%	8.4%	9.8%	0.0%	10.5%	8.0%	9.3%	275
310	0.0%	10.5%	8.5%	0.0%	10.4%	7.7%	9.9%	293
320	8.7%	7.6%	6.1%	0.0%	8.5%	6.0%	7.7%	229
330	8.7%	6.7%	1.2%	16.7%	6.9%	6.6%	6.5%	192
340	4.3%	7.2%	3.7%	0.0%	6.5%	4.3%	6.3%	186
350	0.0%	7.2%	0.6%	0.0%	5.6%	4.3%	5.7%	168
360	0.0%	6.4%	1.8%	0.0%	4.1%	1.7%	4.5%	132
370	0.0%	4.5%	0.6%	0.0%	2.9%	0.6%	3.0%	89
380	0.0%	3.8%	0.6%	0.0%	2.4%	0.9%	2.6%	76
390	0.0%	2.4%	0.0%	0.0%	1.3%	0.3%	1.5%	44
400	0.0%	0.9%	0.0%	0.0%	0.4%	0.0%	0.5%	15
Percentage	0.78%	34.79%	5.54%	0.20%	46.82%	11.87%	100.00%	2958
Mean	276.96	313.67	283.05	275.00	306.18	288.35	305.10	
SD	33.50	40.29	31.36	37.82	37.14	36.07	39.03	
Count	23	1029	164	6	1385	351	2958	

Table 18
Optometry Admission Test
2021
OAT Scores by Examinees of Hispanic Origin

Score	BIO	GCH	OCH	RCT	PHY	QRT	SCI	AA
200	8.1%	6.8%	4.1%	1.4%	9.5%	2.7%	4.1%	0.0%
210	1.4%	2.7%	1.4%	1.4%	2.7%	2.7%	4.1%	0.0%
220	2.7%	4.1%	5.4%	0.0%	8.1%	0.0%	9.5%	0.0%
230	5.4%	2.7%	8.1%	0.0%	10.8%	1.4%	4.1%	4.1%
240	8.1%	6.8%	8.1%	4.1%	4.1%	8.1%	10.8%	9.5%
250	8.1%	5.4%	5.4%	2.7%	17.6%	10.8%	8.1%	9.5%
260	8.1%	5.4%	12.2%	5.4%	16.2%	16.2%	12.2%	12.2%
270	12.2%	18.9%	6.8%	13.5%	2.7%	12.2%	16.2%	16.2%
280	12.2%	10.8%	10.8%	10.8%	8.1%	8.1%	10.8%	17.6%
290	10.8%	10.8%	12.2%	9.5%	5.4%	5.4%	4.1%	10.8%
300	1.4%	8.1%	6.8%	12.2%	4.1%	9.5%	4.1%	6.8%
310	5.4%	8.1%	12.2%	5.4%	1.4%	5.4%	5.4%	4.1%
320	4.1%	4.1%	0.0%	10.8%	1.4%	5.4%	4.1%	2.7%
330	8.1%	2.7%	1.4%	5.4%	1.4%	5.4%	0.0%	4.1%
340	1.4%	1.4%	1.4%	5.4%	5.4%	2.7%	1.4%	2.7%
350	0.0%	1.4%	2.7%	5.4%	1.4%	1.4%	0.0%	0.0%
360	0.0%	0.0%	1.4%	2.7%	0.0%	1.4%	0.0%	0.0%
370	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%
380	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%
390	0.0%	0.0%	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%
400	1.4%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%
Mean	272.03	271.49	271.22	257.03	278.24	298.92	261.89	275.68
SD	41.35	35.83	36.71	37.84	36.84	38.84	34.51	26.64
Count	74	74	74	74	74	74	74	74

BIO=Biology, GCH=General Chemistry, OCH=Organic Chemistry, RCT=Reading Comprehension Test, PHY=Physics, QRT=Quantitative Reasoning Test, SCI=Total Science and AA=Academic Average.

Part Three: Content Specifications

Survey of Natural Sciences: Biology

40 items

1.1 Cell and Molecular Biology

- 1.1.1 Origin of Life
- 1.1.2 Cell metabolism (including photosynthesis / enzymology)
- 1.1.3 Cellular processes
- 1.1.4 Thermodynamics
- 1.1.5 Organelle structure and function
- 1.1.6 Mitosis/ Meiosis
- 1.1.7 Cell structure
- 1.1.8 Experimental cell biology
- 1.1.9 Biomolecules

1.2 Diversity of Life: Biological Organization and Relationship of Major Taxa (Six-Kingdom, Three-Domain System)

- 1.2.1 Plantae
- 1.2.2 Animalia
- 1.2.3 Protista
- 1.2.4 Fungi
- 1.2.5 Eubacteria (Bacteria)
- 1.2.6 Archae
- 1.2.7 Relationships

1.3 Structure and Function of Systems

- 1.3.1 Integumentary
- 1.3.2 Skeletal
- 1.3.3 Muscular
- 1.3.4 Circulatory
- 1.3.5 Immunological
- 1.3.6 Digestive
- 1.3.7 Respiratory
- 1.3.8 Urinary
- 1.3.9 Nervous/senses
- 1.3.10 Endocrine
- 1.3.11 Reproductive
- 1.3.12 Relationships

1.4 Developmental Biology

- 1.4.1 Fertilization
- 1.4.2 Descriptive embryology
- 1.4.3 Developmental mechanisms

1.5 Genetics

- 1.5.1 Molecular genetics
- 1.5.2 Human genetics
- 1.5.3 Classical genetics
- 1.5.4 Chromosomal genetics
- 1.5.5 Genetic technology

1.6 Evolution, Ecology, and Behavior

- 1.6.1 Natural selection
- 1.6.2 Population genetics/Speciation
- 1.6.3 Population and community ecology
- 1.6.4 Ecosystems
- 1.6.5 Animal behavior (including social)

Survey of Natural Sciences: General Chemistry

30 items

1. Stoichiometry and General Concepts

- A. Percent composition
- B. Empirical formulae
- C. Balancing equations
- D. Moles and molecular formulas
- E. Molar mass
- F. Density
- G. Calculations from balanced equations

2. Gases

- A. Kinetic molecular theory of gases
- B. Dalton's gas law
- C. Boyle's gas law
- D. Charles's gas law
- E. Ideal gas law

3. Liquids and Solids

- A. Intermolecular forces
- B. Phase changes
- C. Vapor pressure
- D. Structures
- E. Polarity
- F. Properties

4. Solutions

- A. Polarity
- B. Properties
 - 1. Colligative
 - 2. Non-colligative
- C. Forces
- D. Concentration calculations

5. Acids and Bases

- A. pH
- B. Strength
- C. Brønsted-Lowry reactions
- D. Calculations

6. Chemical Equilibria

- A. Molecular
- B. Acid/base
- C. Precipitation
- D. Calculations
- E. Le Chatelier's principle

7. Thermodynamics and Thermochemistry

- A. Laws of thermodynamics
- B. Hess's law
- C. Spontaneity
- D. Enthalpies and entropies
- E. Heat transfer

8. Chemical Kinetics

- A. Rate laws
- B. Activation energy
- C. Half-life

9. Oxidation-Reduction Reactions

- A. Balancing equations
- B. Determination of oxidation numbers
- C. Electrochemical calculations
- D. Electrochemical concepts and terminology

10. Atomic and Molecular Structure

- A. Electron configuration
- B. Orbital types
- C. Lewis-Dot diagrams
- D. Atomic theory
- E. Quantum theory
- F. Molecular geometry
- G. Bond types
- H. Sub-atomic particles

11. Periodic Properties

- A. Representative elements
- B. Transition elements
- C. Periodic trends
- D. Descriptive chemistry

12. Nuclear Reactions

- A. Balancing equations
- B. Binding energy
- C. Decay processes
- D. Particles
- E. Terminology

13. Laboratory

- A. Basic techniques
- B. Equipment
- C. Error analysis
- D. Safety
- E. Data analysis

Survey of Natural Sciences: Organic Chemistry

30 items

1. Mechanisms: Energetics and Structure

- A. Elimination
- B. Addition
- C. Free radical
- D. Substitution mechanisms
- E. Other

2. Chemical and Physical Properties of Molecules

- A. Spectroscopy
 - 1. ^1H NMR
 - 2. ^{13}C NMR
 - 3. Infrared
 - 4. Multi-spectra
- B. Structure
 - 1. Polarity
 - 2. Intermolecular forces (solubility, melting/boiling point, etc.)
- C. Laboratory Theory and Techniques (i.e. TLC, separations, etc.)

3. Stereochemistry (Structure Evaluation)

- A. Chirality
- B. Isomer relationships
- C. Conformations

4. Nomenclature

- A. IUPAC rules
- B. Functional groups in molecules

5. Individual Reactions of the Major Functional Groups and Combinations of Reactions to Synthesize Compounds

- A. Alkene/Alkyne
 - 1. General
 - 2. One-step
 - 3. Multi-step

- A. B. Aromatic
 - 1. General
 - 2. One-step
 - 3. Multi-step
- B. C. Substitution/Elimination
 - 1. General
 - 2. One-step
 - 3. Multi-step
- C. D. Aldehyde/Ketone
 - 1. General
 - 2. One-step
 - 3. Multi-step
- D. E. Carboxylic acids and derivatives
 - 1. General
 - 2. One-step
 - 3. Multi-step
- E. F. Other
 - 1. General
 - 2. One-step
 - 3. Multi-step

6. Acid-Base Chemistry

- A. A. Ranking Acidity/Basicity
 - 1. Structure Analysis
 - 2. pH/pKa data analysis
- C. B. Prediction of products and equilibria

7. Aromatics and Bonding

- A. Concept of aromaticity
- B. Resonance
- C. Atomic/molecular orbitals
- D. Hybridization
- E. Bond angles/lengths

Reading Comprehension

The Reading Comprehension Test contains three science-based reading passages and requires no prior knowledge of the topics covered other than basic undergraduate preparation in science. The test measures the ability to comprehend, organize, analyze, and remember the information presented.

Each reading passage is 1,000-1,500 words in length and is followed by 12-20 items, which can be answered from a reading of the passage. The total number of items for all three passages is 50 items.

Physics

40 items

- | | |
|---------------------------|---------------------------------------|
| 1. Units and Vectors | 9. Fluid Statics |
| 2. Linear Kinematics | 10. Thermodynamics and Thermal Energy |
| 3. Statics | 11. Electrostatics |
| 4. Dynamics | 12. D.C. Circuits |
| 5. Rotational Motion | 13. Optics |
| 6. Energy and Momentum | |
| 7. Simple Harmonic Motion | |
| 8. Waves | |

Quantitative Reasoning

40 items

6.1. Algebra

- 6.1.1. Equations and expressions
- 6.1.2. Inequalities
- 6.1.3. Exponential notation
- 6.1.4. Absolute value
- 6.1.5. Ratios and proportions
- 6.1.6. Graphical analysis

6.4. Probability and Statistics

6.7. Data Analysis and Sufficiency

6.8. Quantitative Comparison

6.9. Applied Mathematics (Word) Problems

Optometry Admission Test Program
Department of Testing Services
211 East Chicago Avenue
Chicago, Illinois 60611-2637

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