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# Dental Admission Test (DAT) User's Manual 2017



# DENTAL ADMISSION TESTING PROGRAM USER'S MANUAL

2017

## TABLE OF CONTENTS

	Page
History of the Dental Admission Testing Program	1
Content of the Dental Admission Test	2
Test Construction	4
Scoring the Dental Admission Test	5
Sources of Validity Evidence of the Dental Admission Testing Program	5
Other Information Available Regarding the Dental Admission Test	6
References	7
Tables	9
Figures	38

## LIST OF TABLES

Table	Description	Page
1	Cognitive Demands by Discipline	3
2	Quantitative Reasoning Test: Cumulative Percentile Distribution	9
3	Reading Comprehension Test: Cumulative Percentile Distribution	10
4	Biology Test: Cumulative Percentile Distribution	11
5	General Chemistry Test: Cumulative Percentile Distribution	12
6	Organic Chemistry Test: Cumulative Percentile Distribution	13
7	Survey of the Natural Sciences: Cumulative Percentile Distribution	14
8	Perceptual Ability Test: Cumulative Percentile Distribution	15
9	Academic Average: Cumulative Percentile Distribution	16
10	Standard Score Analysis, Year 2017	17
11	Percentage of Dental Schools With Significant Correlations Between DAT Scores, Predental GPA, and 2014/16 First Year Dental Grades	18
12	2014/16 First Year Median Correlation Coefficients	19
13a	Total Lifetime DAT Administrations for Candidates Testing in 2017	20
13b	Test Scores for First Time Test Takers and Repeaters, Year 2017	20
14	Quantitative Reasoning Test by Gender, Year 2017	21
15	Reading Comprehension Test by Gender, Year 2017	22
16	Biology Test by Gender, Year 2017	23
17	General Chemistry Test By Gender, Year 2017	24
18	Organic Chemistry Test By Gender, Year 2017	25
19	Survey of the Natural Sciences by Gender, Year 2017	26
20	Perceptual Ability Test by Gender, Year 2017	27

Table	Description	Page
21	Academic Average by Gender, Year 2017	28
22	Quantitative Reasoning Test by Ethnicity, Year 2017	29
23	Reading Comprehension Test by Ethnicity, Year 2017	30
24	Biology Test by Ethnicity, Year 2017	31
25	General Chemistry Test By Ethnicity, Year 2017	32
26	Organic Chemistry Test By Ethnicity, Year 2017	33
27	Survey of the Natural Sciences by Ethnicity, Year 2017	34
28	Perceptual Ability Test by Ethnicity, Year 2017	35
29	Academic Average by Ethnicity, Year 2017	36
30	DAT scores by Examinees of Hispanic Origin, Year 2017	37

#### LIST OF FIGURES

Figure	Description	Page
1	Survey of the Natural Sciences: Biology Content Specifications	38
2	Survey of the Natural Sciences: General Chemistry Content Specifications	39
3	Survey of the Natural Sciences: Organic Chemistry Content Specifications	40
4	Quantitative Reasoning Content Specifications	41

## INTRODUCTION

### History of the Dental Admission Testing Program

The development of the Dental Admission Testing Program began in 1945. At that time, there were 39 accredited dental schools in the United States, and 12,000 students were enrolled. As of 2016-2017, there were 66 fully operational, accredited dental schools in the United States, and 24,497 students.

There were three basic reasons for the development of the Dental Aptitude Test Battery, as it was known at that time. One was the high rate of student attrition over the four years of dental school. It was estimated that 20% to 25% of the national first-year class withdrew from dental school before graduation. It was anticipated that the aptitude test data employed by the admission committees in the selection of new students would reduce the number of students withdrawing because of poor scholarship.

Another reason for developing the testing program was that veterans of World War II were beginning to apply to dental school in great numbers, and the schools were concerned with comparing educational records that were several years old with the more recent records of non-veterans. It was believed that veterans could be more accurately appraised through the use of both educational records and recent test scores. This leads to the third reason for developing the testing program. The dental school admission officers were aware that the grades from the various high schools and colleges had different meanings with regard to educational achievement, and it was thought that by using a national test, a common yardstick could be used to compare students' achievements.

In 1945, the committee that was developing the Dental Aptitude Test Battery was looking at the possibility of measuring students' ability to read and comprehend, to memorize verbal and visual material, to recognize word meaning, to reason, to visualize patterns, to express themselves orally, and to demonstrate manual dexterity. The committee was also interested in the possibility of measuring a student's interest, personality, perseverance, and social instincts. To the credit of that committee, the list was greatly reduced when the test battery was made definitive. The Dental Aptitude Test Battery was initiated as an instrument to measure basic abilities in mathematics, verbal reasoning, reading comprehension in the sciences, and academic achievement in the natural sciences. The committee also included tests of object visualization and chalk carving.

With some exceptions, the types of tests given in the testing program have remained rather constant through the years. In 1972, an organic chemistry test was added to the Survey of the Natural Sciences, and the Chalk Carving Test was replaced by the Perceptual-motor Ability Test. Prior to 1972, the Chalk Carving Test and Space Relations Test provided information related to manual dexterity as well as the ability to visualize in three dimensions. For various reasons, including the difficulty and costliness of administering a manual test on a national basis, the Chalk Carving Test was replaced by the Perceptual-motor Ability Test. The validation studies (Graham, 1972, 1974) that compared Chalk Carving Test scores and the pencil and paper Perceptual-motor Ability Test scores with dental school performance in technique courses indicated that the pencil-and-paper test scores were as valid as the Chalk Carving Test in predicting performance.

Four principles were established as desirable in developing the Perceptual-motor Ability Tests. In short, the tests must be: 1) suitable for group administration, 2) a non-manual performance test, 3) of high reliability and not subject to practice effects, and 4) ability measures that discriminate between technical and non-technical proficiency. The underlying factor that permitted the replacement of the Chalk Carving Test with the Perceptual-motor Ability Test was that visual perception, when measured reliably

through a pencil-and-paper test, would serve as a valid predictor for judging the probability of success in the technique courses required by the dental curriculum.

In 1981, the format of the test was once again changed to include only a test of quantitative reasoning ability, a test to measure reading comprehension ability, a perceptual ability test, and a survey of the natural sciences, which measured achievement in biology, general chemistry, and organic chemistry. The Verbal Reasoning Test was dropped because there had been little evidence of any significant positive relationship with dental school performance. The two perceptual tests were combined into one, including those parts having the highest positive correlations with technique courses in the annual validity studies.

In October 1988, the standard score scale that was used to report the results of the DAT was changed from the '-1' to '9' scale to the present '1' to '30' scale. The 1 to 30 standard score scale is based on the log ability scale defined by the Rasch Model (Rasch, 1960, 1980; Wright, 1977; and Wright & Stone, 1979) for dichotomous item responses. Beginning with the October 1988 test administration, the test results for all tests on the battery except the Reading Comprehension Test were equated to the October 1986 ability scale using the Rasch common item equating procedure. The Reading Comprehension Test could not be equated at that time because all of the items were dependent on a single long passage, which is inappropriate for the common item equating technique. Beginning in March 1989, the format of the Reading Comprehension Test was modified to include three shorter passages with 16 to 17 items associated with each passage. This format allowed for the use of the common item equating technique. Beginning with the October 1989 test administration, all of the reading comprehension standard scores were equated to the April 1989 ability scale.

### **Content of the Dental Admission Test**

There are four individual tests contained in the Dental Admission Test (DAT) battery. The first is the Survey of the Natural Sciences (SNS). The SNS is an achievement test that evaluates examinees' knowledge of material typically taught in undergraduate science courses. The SNS consists of 100 multiple-choice items divided into three sections: 40 items involving basic biology, 30 items involving general chemistry, and 30 items involving organic chemistry. While emphasis has been placed on selecting items requiring comprehension and problem solving rather than simple recall, test constructors consider the recall of information in some areas to be essential. Table 1 below shows the cognitive processing demands of items on new editions of the DAT. As shown, general and organic chemistry incorporate a significant percentage of comprehension and problem solving items. The content specifications for these three sections are listed in Figures 1 to 3. When the SNS is scored, separate scores are given for each of the subtests as well as an overall score for the Survey as a whole.

**Table 1**  
**Dental Admission Test**  
**Cognitive Demands By Discipline**

Discipline	Biology			General Chemistry			Organic Chemistry			QRT		
No. of Items:	40			30			30			40		
<b>DAT #1</b>												
Cognitive Level <sup>†</sup>	1	2	3	1	2	3	1	2	3	1	2	3
Percentage	53%	37%	10%	17%	67%	17%	23%	57%	20%	18%	57%	25%
<b>DAT #2</b>												
Cognitive Level <sup>†</sup>	1	2	3	1	2	3	1	2	3	1	2	3
Percentage	58%	35%	8%	27%	53%	20%	20%	67%	13%	25%	52%	23%

† 1: Recall; 2: Comprehension; 3: Problem Solving

The second test is the Perceptual Ability Test (PAT). The PAT consists of 90 two-dimensional and three-dimensional problems. The PAT evaluates several of the major factors commonly identified in studies of perceptual or spatial ability (i.e. angle discrimination, block counting, paper folding, form development, and two forms of object visualization). The form development, paper folding, and object visualization factors relate almost exclusively to form perception. It has been demonstrated, especially in industrial psychology, that factors central to one's ability to perceive small differences actually are valuable in selecting applicants who need fine manual dexterity.

The third test is the Reading Comprehension Test (RCT). The RCT consists of 50-items and three reading passages of approximately 1,000-1,500 words each. The topics selected for these passages cover aspects of biomedical science that are taught in an undergraduate curriculum. Each passage is followed by 16 or 17 items that examine the concepts and ideas developed in the passage. The fourth test is the Quantitative Reasoning Test (QRT). Prior to 1990, the QRT consisted of 50 items, 30 of which were mathematical problems and 20 of which covered applied mathematics. Beginning in spring 1990, the length of the QRT was reduced to 40 items. The test now consists of 30 mathematical problems and 10 applied mathematics problems. The content specifications for the QRT are listed in Figure 4. The number of items was reduced in order to resolve several issues associated with this test (Smith, Kramer, & Kubiak, 1989, 1990). There are no advanced mathematics or calculus problems. Knowledge of basic mathematics, trigonometry and geometry, and algebra required of a first-year college student in preparation for college science courses is assumed by the test. In June 2016, the content specifications were changed to introduce 14 items in the areas of Data Analysis, Interpretation, and Sufficiency, and Quantitative Comparison to assess the critical thinking ability of examinees. The percentage of items at various cognitive demand levels is shown in Table 1 above.

A composite, or average score, is included in the score report. This is called the Academic Average. It is the rounded arithmetic mean of the quantitative reasoning, reading comprehension, biology, and general and organic chemistry standard scores. The four tests in the Dental Admission Test battery take approximately four hours and thirty minutes to complete. Prior to the computerization of the DAT,

the written versions were offered twice each year, typically in April and October. The testing period usually started at 8:30 a.m. and ended about 1:00 p.m. With the introduction of the computerized DAT in 1999, the four tests can be taken nearly any day of the year at Prometric Testing Centers located throughout the United States.

### **Test Construction**

The process of test construction occurs annually. Test items for the Survey of the Natural Sciences and Quantitative Reasoning Test are developed by DAT Test Construction Team members who are faculty members from accredited colleges and universities. Newly developed items are reviewed by test construction teams and pretested in order to garner item performance statistics. After pretesting, the items are reviewed again and revised, if necessary, to ensure they meet established psychometric standards for the test. Perceptual Ability Test and Reading Comprehension Test items are developed by external consultants. These items undergo the same review and pre-testing process outlined above. The pretest items are not included in the scoring of the test.

Test construction teams are also responsible for selecting the items included on each edition of the test. This determination is based on meeting content specifications and various standards of item quality. Item quality is evaluated by considering 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 represented 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 this percentage increases the difficulty of the item decreases. In short, the more examinees who answer an item correctly, the less difficult the item. The recommended item difficulty level range for DAT items is between 40 and 89 percent; mean item difficulties tend toward the upper end of this range.

The discrimination index is essentially a point-biserial correlation coefficient. The coefficient associated with an item represents the correlation between scores on that item (correct or incorrect) and the total score on that particular test. A low correlation coefficient (e.g., 0.01) would indicate that 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 (e.g., 0.45) would indicate that the item can discriminate successfully between high scoring and low scoring examinees. Items with strong discrimination index values make a meaningful contribution to a test's ability to rank order examinees according to the ability being measured, and they also contribute greatly to the reliability of the test.

Items not having satisfactory difficulty levels or discrimination indices are either revised or discarded.



## Scoring the Dental Admission Test

Each test in the DAT battery yields a raw score, which is the sum of the examinee's correct answers. The raw score is converted to a standard score so that it is possible to compare an examinee's performance across tests on the battery and across different editions.

Since the adoption of the Rasch psychometric model by the DAT program in 1988, each test within the DAT battery contains a set of anchor items which has been used in previous administrations of the test. The Rasch difficulty parameters for these items are used to equate the test. The conversion of raw scores to the standard score scale is based on the underlying log ability scale used by the Rasch psychometric model (Rasch, 1960; Wright, 1977; Wright & Stone, 1979). The log ability scale offers several advantages. First, it makes no assumptions about the underlying distribution of scores. Second, person ability and item difficulty are on a common metric that enables interpretation of log abilities in terms of the skills or tasks represented on the tests. Third, the log ability scale is an interval scale by nature. This means that the amount of ability represented by the difference between the scores of 3 and 4 is the same as the amount of ability represented by the difference between the scores of 16 and 17. A complete description of the new standard score scale can be found in Smith, Kramer, and Kubiak (1988), and a description of equating procedures can be found in Larkin (1992).

Because the current standard score scale was first used with the October 1988 test edition, the cumulative frequency distributions for the October 1988 test results are provided in order to facilitate comparison among groups (See Tables 2-9). For the Reading Comprehension Test, the cumulative frequency distribution for the base year (i.e., April 1989) for that test is presented. Frequency distributions for 2017 are also supplied in the same tables, to facilitate comparison.

### Sources of Validity Evidence for the Dental Admission Testing Program

For any testing program, validity is the most important consideration. Validity refers to the degree to which logic and evidence support the use of test scores for making critical decisions, such as admission of examinees to dental education programs. National testing standards provide useful guidance to testing organizations that can help improve validation efforts. It is important to follow these standards and provide the corresponding evidence. Sources of validity evidence for the DAT include reliability evidence, content validity evidence, and external correlational evidence.

#### Reliability Evidence

Reliability is a prerequisite for validity, and is often defined as the precision or consistency of assessment. The internal consistency reliability of the DAT was measured using Kuder-Richardson Formula 20 ( $KR_{20}$ ). Ranges of reliability coefficients associated with the four tests are as follows: Quantitative Reasoning Test (40 items), 0.80 to 0.89; Reading Comprehension Test (50 items), 0.78 to 0.86; Survey of the Natural Sciences (100 items), 0.92 to 0.93; and Perceptual Ability Test (90 items), 0.90 to 0.92. These reliability coefficients are well within the acceptable range and are typical of standardized tests and what has been obtained for the DAT battery since the early 1970s. Additionally, Table 10 presents descriptive statistics (means and standard deviations) for 2017 administrations of the DAT.

#### Content Validity Evidence

Content relevance and representativeness, narrowly defined, refers to the quality of the sample of content from a specific content domain. It is based on professional judgments about test content and

the content domain. For example, content found in the DAT's Survey of the Natural Sciences covers a content domain that includes general biology, and general and organic chemistry as typically presented in the undergraduate curriculum in pre dental courses. For the Dental Admission Test battery, content validity evidence is assessed primarily by the evaluation and judgment of test construction team members, who are subject matter experts. Committee members judge the appropriateness, relevance, and representativeness of test content relative to the content domain. Reading Comprehension content validity assessment is a collaborative process between biomedical science undergraduate faculty and experts in reading comprehension passage development and item writing.

### **External Correlational Evidence**

External correlational evidence is also obtained to determine the extent to which important outcomes can be predicted from test performance. For example, test performance should be related to future performance in dental school. Correlational evidence can also be useful in enhancing one's understanding of the psychological constructs involved, and the relationship among similar and dissimilar constructs as they are assessed via different methods (Messick, 1989, pp. 16-46).

Each year the relationship between DAT scores and first year dental school grades is analyzed by means of Pearson product moment correlations. Table 11 indicates the percentage of dental schools with significant positive correlations between first year grades and both pre dental GPAs and DAT scores in the 2014-2016 academic year. Similarly, Table 12 presents median correlation coefficients for this dataset. Tables 11 and 12 indicate that Dental Admission Test scores typically have a significant positive relationship with performance in the first year of dental school.

In most cases, the DAT Academic Average and Total Science scores have a stronger relationship with first year performance than pre dental grade point averages. As indicated in Table 12, multiple regression involving the DAT scores (Quantitative Reasoning, Reading Comprehension, Biology, General Chemistry, Organic Chemistry, and Perceptual Ability) operating as a set results in better prediction of first year GPA than using any individual predictor in isolation. Similarly, multiple regression using DAT scores and pre dental GPAs together results in the strongest prediction of first year GPA.

### **Other Information Available Regarding the Dental Admission Test**

- A. *Dental Admission Test (DAT) Program Guide, 2017*. This publication provides policies and procedures related to the administration of the DAT, along with information concerning content specifications and preparation materials.
- B. *Dental Admission Test Validity Study, 2014-2016*. This is the most recent validity study for the DAT. This study examined the empirical relationship between various predictors (i.e., DAT scores and pre dental GPAs) and student performance during the first two years of dental school.
- C. *Dental Admission Test (DAT) Examinee Information, 2017*. This report provides general information concerning the self-reported demographic characteristics of individuals who participated in the testing program. The information is presented at an aggregate level, and includes breakdowns based on the following: gender, ethnicity, parents' income/occupations/ethnicity, undergraduate major, GPA, and whether the examinee took a review course.

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**Table 2**  
**Dental Admission Test**  
**Quantitative Reasoning**  
**Cumulative Percentile Distribution**

Score	October 1988 †		2007		2012		2017	
	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0
8	0.1	0.2	0.2	0.3	0.0	0.1	0.0	0.0
9	0.1	0.3	0.5	0.8	0.1	0.2	0.1	0.2
10	0.6	0.8	1.4	2.2	0.3	0.5	0.4	0.5
11	1.7	2.5	2.6	4.8	0.8	1.3	0.7	1.2
12	5.2	7.7	6.1	10.9	2.1	3.4	1.9	3.2
13	9.8	17.5	10.8	21.7	3.9	7.3	3.9	7.1
14	12.6	30.2	12.0	33.7	7.9	15.2	6.1	13.2
15	16.1	46.3	17.0	50.7	10.0	25.2	9.6	22.8
16	19.3	65.6	16.5	67.2	15.3	40.4	12.2	35.0
17	12.1	77.7	11.6	78.9	14.1	54.6	12.3	47.3
18	9.2	86.9	8.7	87.6	11.7	66.3	12.7	60.0
19	8.1	94.9	6.5	94.1	12.0	78.2	11.7	71.8
20	2.0	96.9	2.0	96.1	7.3	85.5	7.6	79.3
21	1.9	98.8	2.1	98.1	6.5	92.0	6.1	85.4
22	0.6	99.4	1.0	99.1	3.5	95.5	4.7	90.1
23	0.2	99.7	0.5	99.6	1.2	96.7	3.5	93.6
24	0.3	100.0	0.1	99.6	1.8	98.5	2.2	95.8
25	0.0	100.0	0.2	99.9	0.2	98.7	2.0	97.8
26	0.0	100.0	0.1	99.9	0.6	99.3	0.2	98.0
27	0.0	100.0	0.0	99.9	0.3	99.6	0.2	98.1
28	0.0	100.0	0.0	100.0	0.0	99.6	1.1	99.2
29	0.0	100.0	0.0	100.0	0.0	99.6	0.2	99.4
30	0.0	100.0	0.0	100.0	0.4	100.0	0.6	100.0
Mean	15.75		15.55		17.42		18.01	
SD	2.39		2.63		2.98		3.41	
Count*	2630		13680		13160		12426	

† Base Exam

\* Number of examinations given to examinees

**Table 3  
Dental Admission Test  
Reading Comprehension  
Cumulative Percentile Distribution**

Score	April 1989 †		2007		2012		2017	
	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
10	0.1	0.2	0.1	0.1	0.0	0.1	0.0	0.1
11	0.8	1.0	0.2	0.3	0.1	0.2	0.1	0.1
12	1.2	2.2	0.6	0.9	0.4	0.6	0.2	0.3
13	2.1	4.3	2.0	2.9	0.8	1.4	0.5	0.8
14	3.6	7.9	3.6	6.5	2.0	3.4	1.4	2.2
15	8.6	16.5	8.2	14.6	4.4	7.8	2.3	4.6
16	9.7	26.2	10.6	25.2	7.4	15.2	5.3	9.9
17	13.1	39.3	14.3	39.6	10.9	26.0	7.6	17.5
18	15.7	55.0	16.9	56.4	12.1	38.1	10.6	28.1
19	15.4	70.4	14.9	71.3	14.8	52.9	13.4	41.5
20	12.8	83.2	10.4	81.7	13.2	66.1	13.9	55.4
21	7.0	90.2	9.5	91.2	12.0	78.1	12.9	68.4
22	5.7	95.9	4.0	95.1	9.7	87.8	10.9	79.3
23	1.6	97.4	2.0	97.2	4.6	92.4	8.8	88.1
24	1.1	98.5	1.5	98.7	3.2	95.7	4.7	92.8
25	0.7	99.2	0.8	99.6	2.5	98.1	3.4	96.1
26	0.6	99.9	0.3	99.9	1.0	99.2	2.0	98.1
27	0.0	99.9	0.1	99.9	0.2	99.4	1.0	99.2
28	0.1	100.0	0.0	100.0	0.4	99.8	0.2	99.4
29	0.0	100.0	0.0	100.0	0.0	99.8	0.4	99.8
30	0.0	100.0	0.0	100.0	0.2	100.0	0.2	100.0
Mean	18.12		18.18		19.38		20.18	
SD	2.70		2.58		2.84		2.92	
Count*	2255		13680		13160		12426	

† Base Exam

\* Number of examinations given to examinees

**Table 4  
Dental Admission Test  
Biology  
Cumulative Percentile Distribution**

Score	October 1988 †		2007		2012		2017	
	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.1
9	0.7	1.0	0.0	0.1	0.0	0.0	0.0	0.1
10	2.1	3.1	0.2	0.3	0.2	0.3	0.1	0.2
11	4.6	7.7	0.6	0.9	0.5	0.8	0.4	0.6
12	9.5	17.2	2.0	2.9	1.1	1.9	0.9	1.5
13	12.2	29.4	4.3	7.1	2.5	4.3	2.1	3.6
14	13.4	42.9	7.8	14.9	5.2	9.5	4.6	8.2
15	16.3	59.1	11.8	26.7	8.4	17.9	6.8	15.0
16	10.6	69.8	16.2	43.0	12.0	29.9	9.6	24.7
17	14.0	83.8	15.8	58.7	14.0	43.9	12.2	36.9
18	7.4	91.2	16.8	75.5	15.1	59.0	13.0	49.9
19	4.3	95.5	10.4	85.9	13.3	72.3	13.7	63.6
20	1.7	97.2	7.4	93.3	11.6	83.9	11.4	74.9
21	1.4	98.6	3.3	96.6	5.7	89.6	9.3	84.2
22	0.8	99.4	1.7	98.3	4.8	94.5	6.1	90.3
23	0.3	99.6	1.0	99.2	2.4	96.9	3.5	93.8
24	0.0	99.6	0.6	99.8	1.5	98.4	3.2	97.0
25	0.3	99.9	0.0	99.8	0.4	98.8	1.0	98.0
26	0.0	99.9	0.1	99.9	0.7	99.5	1.0	99.0
27	0.0	99.9	0.1	100.0	0.2	99.7	0.0	99.0
28	0.1	100.0	0.0	100.0	0.1	99.7	0.5	99.5
29	0.0	100.0	0.0	100.0	0.0	99.7	0.0	99.5
30	0.0	100.0	0.0	100.0	0.3	100.0	0.5	100.0
Mean	15.05		16.97		17.99		18.61	
SD	2.66		2.43		2.81		3.08	
Count*	2630		13680		13160		12426	

† Base Exam

\* Number of examinations given to examinees

**Table 5**  
**Dental Admission Test**  
**General Chemistry**  
**Cumulative Percentile Distribution**

Score	October 1988 †		2007		2012		2017	
	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.2	0.3	0.0	0.1	0.0	0.0	0.0	0.0
8	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.1
9	1.1	1.3	0.1	0.2	0.1	0.2	0.1	0.2
10	1.5	2.9	0.4	0.7	0.3	0.4	0.2	0.4
11	4.9	7.7	1.2	1.9	0.7	1.1	0.6	1.0
12	8.9	16.6	2.4	4.3	1.7	2.8	1.6	2.6
13	10.3	26.9	5.3	9.5	3.2	6.0	2.9	5.5
14	12.9	39.8	7.6	17.1	5.5	11.5	4.8	10.3
15	12.9	52.7	12.7	29.9	7.2	18.8	7.1	17.4
16	11.6	64.3	14.5	44.3	9.0	27.7	8.2	25.6
17	10.6	74.9	14.3	58.6	12.2	40.0	9.0	34.6
18	9.9	84.8	14.3	72.9	14.3	54.2	12.7	47.3
19	4.5	89.3	10.7	83.6	9.8	64.0	12.5	59.8
20	3.2	92.5	5.8	89.4	11.8	75.8	13.1	72.8
21	3.4	95.9	4.3	93.7	7.7	83.4	7.8	80.6
22	2.1	98.1	2.8	96.5	6.8	90.2	6.9	87.5
23	1.1	99.1	1.8	98.3	3.6	93.8	3.8	91.3
24	0.0	99.1	0.4	98.7	2.4	96.2	2.7	94.0
25	0.0	99.1	0.7	99.4	1.5	97.7	1.4	95.4
26	0.7	99.8	0.1	99.5	0.9	98.6	2.6	98.0
27	0.0	99.8	0.1	99.6	0.0	98.6	0.9	98.9
28	0.0	99.8	0.0	99.6	0.5	99.1	0.0	98.9
29	0.2	100.0	0.3	100.0	0.6	99.8	0.4	99.3
30	0.0	100.0	0.0	100.0	0.2	100.0	0.7	100.0
Mean	15.54		17.02		18.40		18.78	
SD	3.14		2.86		3.31		3.48	
Count*	2630		13680		13160		12426	

† Base Exam

\* Number of examinations given to examinees



**Table 6**  
**Dental Admission Test**  
**Organic Chemistry**  
**Cumulative Percentile Distribution**

Score	October 1988 †		2007		2012		2017	
	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent
1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1
2	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1
3	0.2	0.3	0.0	0.1	0.0	0.1	0.0	0.1
4	0.0	0.3	0.0	0.1	0.0	0.1	0.0	0.1
5	0.0	0.3	0.0	0.1	0.0	0.1	0.0	0.1
6	0.2	0.4	0.0	0.1	0.0	0.1	0.0	0.1
7	0.4	0.8	0.0	0.1	0.1	0.2	0.0	0.1
8	0.5	1.4	0.1	0.2	0.0	0.2	0.1	0.2
9	3.2	4.6	0.4	0.6	0.2	0.5	0.2	0.4
10	2.9	7.5	0.7	1.3	0.4	0.8	0.5	0.9
11	7.6	15.1	1.7	3.0	1.3	2.1	1.2	2.1
12	10.2	25.2	3.6	6.6	2.1	4.3	2.1	4.3
13	16.0	41.3	5.0	11.6	3.7	8.0	3.7	8.0
14	11.3	52.6	9.0	20.6	6.2	14.2	5.8	13.8
15	10.3	62.9	9.9	30.5	8.1	22.4	7.1	20.9
16	14.3	77.1	12.4	42.9	11.0	33.4	8.6	29.5
17	4.4	81.5	12.4	55.3	11.6	44.9	8.0	37.5
18	7.6	89.2	13.3	68.6	9.0	54.0	10.5	48.0
19	3.4	92.6	11.5	80.1	12.6	66.5	11.2	59.2
20	2.3	94.9	7.5	87.6	9.2	75.8	8.4	67.5
21	2.3	97.2	4.7	92.2	8.4	84.2	8.1	75.6
22	1.6	98.8	3.6	95.8	4.6	88.8	7.5	83.1
23	0.0	98.8	2.3	98.1	4.0	92.8	7.0	90.2
24	1.0	99.8	0.3	98.4	1.7	94.6	2.1	92.3
25	0.0	99.8	0.6	99.0	2.4	97.0	1.0	93.3
26	0.0	99.8	0.5	99.5	0.6	97.6	3.6	97.0
27	0.2	100.0	0.1	99.6	0.6	98.2	0.5	97.5
28	0.0	100.0	0.0	99.7	0.7	98.9	0.5	98.0
29	0.0	100.0	0.3	100.0	1.1	99.9	0.7	98.7
30	0.0	100.0	0.0	100.0	0.1	100.0	1.3	100.0
Mean	14.58		17.08		18.20		18.81	
SD	3.25		3.15		3.63		3.98	
Count*	2630		13680		13160		12426	

† Base Exam

\* Number of examinations given to examinees

**Table 7**  
**Dental Admission Test**  
**Survey of the Natural Sciences**  
**Cumulative Percentile Distribution**

Score	October 1988 †		2007		2012		2017	
	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10	1.1	1.2	0.1	0.1	0.1	0.1	0.1	0.1
11	4.0	5.2	0.4	0.6	0.3	0.4	0.2	0.3
12	7.7	13.0	1.6	2.2	1.0	1.4	0.9	1.1
13	12.5	25.4	4.4	6.6	2.5	3.9	2.7	3.8
14	18.4	43.8	7.1	13.7	5.4	9.2	4.5	8.4
15	14.3	58.1	12.8	26.6	8.6	17.9	7.0	15.4
16	14.0	72.2	16.2	42.8	11.4	29.3	9.8	25.1
17	11.4	83.5	17.0	59.8	14.3	43.6	11.2	36.3
18	7.7	91.3	15.2	75.0	14.5	58.2	12.8	49.1
19	5.0	96.3	12.1	87.1	14.1	72.3	13.8	63.0
20	1.5	97.8	6.8	93.9	10.2	82.5	11.6	74.6
21	1.1	98.9	3.4	97.3	7.5	90.0	9.1	83.7
22	0.8	99.6	1.6	99.0	4.7	94.7	6.7	90.4
23	0.1	99.7	0.6	99.6	2.5	97.3	4.2	94.6
24	0.2	99.8	0.3	99.9	1.3	98.6	2.5	97.1
25	0.1	99.9	0.1	99.9	0.7	99.3	1.6	98.7
26	0.1	100.0	0.0	100.0	0.5	99.7	0.7	99.4
27	0.0	100.0	0.0	100.0	0.1	99.8	0.2	99.7
28	0.0	100.0	0.0	100.0	0.1	99.9	0.2	99.9
29	0.0	100.0	0.0	100.0	0.1	99.9	0.0	99.9
30	0.0	100.0	0.0	100.0	0.1	100.0	0.1	100.0
Mean	15.14		16.96		18.02		18.59	
SD	2.43		2.31		2.73		2.99	
Count*	2630		13680		13160		12426	

† Base Exam

\* Number of examinations given to examinees

**Table 8  
Dental Admission Test  
Perceptual Ability  
Cumulative Percentile Distribution**

Score	October 1988 †		2007		2012		2017	
	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
9	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
10	0.2	0.3	0.2	0.3	0.2	0.2	0.0	0.0
11	1.4	1.7	0.8	1.0	0.3	0.5	0.2	0.2
12	3.4	5.1	1.6	2.7	1.0	1.6	0.5	0.6
13	7.6	12.7	3.0	5.6	1.9	3.5	1.1	1.8
14	14.3	27.0	5.5	11.2	3.6	7.1	2.7	4.4
15	14.5	41.5	8.4	19.5	6.5	13.6	4.9	9.3
16	18.4	59.8	10.6	30.1	8.0	21.5	7.9	17.2
17	10.9	70.8	11.8	41.9	11.2	32.7	10.8	28.0
18	11.2	81.9	14.1	56.0	13.3	46.1	14.0	42.0
19	8.1	90.0	14.4	70.4	15.3	61.3	15.6	57.5
20	4.1	94.1	11.6	82.0	12.5	73.8	14.6	72.2
21	2.7	96.8	7.7	89.7	9.4	83.2	11.7	83.9
22	1.4	98.2	4.5	94.2	8.3	91.5	7.6	91.5
23	1.0	99.2	2.3	96.5	4.2	95.7	4.4	95.9
24	0.5	99.7	1.7	98.2	2.4	98.1	2.4	98.3
25	0.2	99.9	1.0	99.2	1.1	99.2	1.2	99.5
26	0.1	100.0	0.4	99.5	0.4	99.6	0.2	99.7
27	0.0	100.0	0.2	99.8	0.3	99.9	0.2	99.9
28	0.0	100.0	0.1	99.9	0.0	99.9	0.0	100.0
29	0.0	100.0	0.0	99.9	0.0	99.9	0.0	100.0
30	0.0	100.0	0.1	100.0	0.1	100.0	0.0	100.0
Mean	16.21		18.02		18.71		18.98	
SD	2.58		2.91		2.86		2.62	
Count*	2630		13680		13160		12426	

† Base Exam

\* Number of examinations given to examinees

**Table 9**  
**Dental Admission Test**  
**Academic Average**  
**Cumulative Percentile Distribution**

Score	October 1988 †		2007		2012		2017	
	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10	0.4	0.5	0.1	0.1	0.1	0.1	0.0	0.0
11	1.7	2.1	0.3	0.4	0.2	0.2	0.1	0.1
12	5.2	7.3	1.1	1.5	0.5	0.8	0.3	0.5
13	11.3	18.7	3.2	4.6	1.5	2.3	1.2	1.7
14	16.0	34.6	7.2	11.8	3.6	5.9	2.9	4.6
15	16.9	51.5	12.1	23.9	7.0	12.9	5.7	10.2
16	16.7	68.2	16.6	40.5	10.6	23.5	9.4	19.6
17	12.8	81.0	20.0	60.5	14.6	38.1	11.8	31.5
18	9.7	90.6	17.4	77.9	16.5	54.5	14.0	45.5
19	5.0	95.7	11.6	89.5	15.5	70.0	14.4	60.0
20	2.3	97.9	6.1	95.6	12.0	82.1	13.2	73.1
21	1.4	99.4	2.7	98.3	8.1	90.2	10.0	83.2
22	0.4	99.8	1.1	99.4	4.7	94.9	7.3	90.5
23	0.2	99.9	0.4	99.8	3.0	97.9	4.4	94.9
24	0.1	100.0	0.2	99.9	1.3	99.2	2.8	97.7
25	0.0	100.0	0.0	100.0	0.5	99.7	1.3	99.0
26	0.0	100.0	0.0	100.0	0.2	99.9	0.7	99.7
27	0.0	100.0	0.0	100.0	0.1	100.0	0.2	99.9
28	0.0	100.0	0.0	100.0	0.0	100.0	0.1	100.0
29	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0
30	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0
Mean	15.53		16.96		18.28		18.88	
SD	2.24		2.10		2.49		2.72	
Count*	2630		13680		13160		12426	

† Base Exam

\* Number of examinations given to examinees

**Table 10**  
**Dental Admission Test**  
**Standard Score Analysis**  
**2017**

N = 12,426	Number of Items	Mean	S.D.
Quantitative Reasoning	40	18.01	3.41
Reading Comprehension	50	20.18	2.92
Biology	40	18.61	3.08
General Chemistry	30	18.78	3.48
Organic Chemistry	30	18.81	3.98
Survey of the Natural Sciences	100	18.59	2.99
Perceptual Ability	90	18.98	2.62
Academic Average		18.88	2.72

**Table 11**  
**Percentage of Dental Schools with Significant ( $p \leq .05$ )**  
**Correlations**  
**Between DAT Scores, Predental GPAs, and First-Year Dental**  
**Grades**  
**School Year 2014-2016**

	BioMedical Science	Preclinical Operative Technique	First Year GPA
<b>Predental GPAs</b>			
Total	92%	67%	90%
Science	88%	69%	88%
<b>DAT Scores</b>			
Quantitative Reasoning	62%	37%	60%
Reading Comprehension	52%	41%	52%
Biology	84%	37%	80%
General Chemistry	84%	41%	76%
Organic Chemistry	78%	33%	74%
Survey of the Natural Sciences	92%	53%	92%
Perceptual Ability	48%	69%	60%
Academic Average	90%	59%	92%

**Table 12**  
**First-Year Class**  
**Median Correlation Coefficients (Pearson R)**  
**School Year 2014-2016**

	BioMedical Science	Preclinical Operative Technique	First Year GPA
<b>Predental GPAs</b>			
Total	0.35	0.18	0.33
Science	0.37	0.20	0.36
<b>DAT Scores</b>			
Quantitative Reasoning	0.22	0.16	0.25
Reading Comprehension	0.20	0.13	0.19
Biology	0.30	0.12	0.27
General Chemistry	0.27	0.13	0.27
Organic Chemistry	0.28	0.15	0.27
Survey of the Natural Sciences	0.35	0.16	0.33
Perceptual Ability	0.18	0.23	0.21
Academic Average	0.37	0.20	0.33
<b>Multiple R</b>			
DAT	0.44	0.35	0.44
DAT and GPAs	0.54	0.42	0.54

**Table 13a**  
**Dental Admission Test**  
**Total Lifetime DAT Administrations**  
**for Candidates Testing in 2017**

Category	Count
1 <sup>st</sup> Admin	8620
2 <sup>nd</sup> Admin	2789
3 <sup>rd</sup> Admin	802
4 <sup>th</sup> Admin	170
5 <sup>th</sup> Admin	31
6 <sup>th</sup> Admin	9
7 <sup>th</sup> Admin	3
8 <sup>th</sup> Admin	1
9 <sup>th</sup> Admin	0
10 <sup>th</sup> Admin	1
Exams Given in 2017	12426

**Table 13b**  
**Dental Admission Test**  
**Scores for First Time Test Takers and Repeaters**  
**2017**

Subject	First Time Test Takers		Repeaters	
	Mean	Std. Dev.	Mean	Std. Dev.
Quantitative Reasoning	18.36	3.54	17.20	2.94
Reading Comprehension	20.41	2.96	19.65	2.76
Biology	18.85	3.22	18.04	2.66
General Chemistry	19.12	3.64	18.03	2.96
Organic Chemistry	19.21	4.15	17.91	3.41
Survey of the Natural Sciences	18.90	3.14	17.90	2.50
Perceptual Ability	19.04	2.71	18.85	2.38
Academic Average	19.19	2.85	18.17	2.23



**Table 14**  
**Dental Admission Test**  
**Quantitative Reasoning by Gender**  
**2017**

Score	Females	Males	Total	Count
1	0.0%	0.0%	0.0%	1
2	0.0%	0.0%	0.0%	0
3	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	1
7	0.0%	0.0%	0.0%	0
8	0.0%	0.0%	0.0%	2
9	0.2%	0.1%	0.1%	16
10	0.4%	0.3%	0.4%	45
11	1.0%	0.3%	0.7%	88
12	2.4%	1.4%	1.9%	239
13	5.0%	2.5%	3.9%	484
14	7.8%	4.0%	6.1%	760
15	11.3%	7.5%	9.6%	1190
16	13.3%	10.9%	12.2%	1512
17	12.7%	11.9%	12.3%	1528
18	12.0%	13.6%	12.7%	1577
19	10.8%	13.0%	11.8%	1458
20	6.8%	8.5%	7.6%	936
21	5.2%	7.1%	6.0%	749
22	3.9%	5.7%	4.7%	586
23	2.8%	4.3%	3.5%	430
24	1.5%	3.1%	2.2%	276
25	1.4%	2.8%	2.0%	247
26	0.1%	0.2%	0.2%	20
27	0.1%	0.3%	0.2%	21
28	0.8%	1.4%	1.0%	130
29	0.1%	0.2%	0.1%	18
30	0.4%	0.9%	0.6%	79
	55.6%	44.4%	100.0%	12393
Mean	17.47	18.67	18.01	
SD	3.29	3.44	3.41	
Count*	6890	5503	12393	

\* Number of examinations given to examinees

**Table 15**  
**Dental Admission Test**  
**Reading Comprehension by Gender**  
**2017**

Score	Females	Males	Total	Count
1	0.0%	0.0%	0.0%	2
2	0.0%	0.0%	0.0%	0
3	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	0
7	0.0%	0.0%	0.0%	0
8	0.0%	0.0%	0.0%	0
9	0.0%	0.0%	0.0%	1
10	0.1%	0.0%	0.0%	4
11	0.0%	0.1%	0.1%	7
12	0.2%	0.2%	0.2%	29
13	0.5%	0.5%	0.5%	61
14	1.6%	1.2%	1.4%	175
15	2.3%	2.4%	2.3%	290
16	5.6%	4.9%	5.3%	657
17	7.8%	7.3%	7.6%	942
18	11.0%	10.2%	10.7%	1320
19	13.8%	13.0%	13.4%	1665
20	13.8%	14.0%	13.9%	1723
21	13.3%	12.5%	12.9%	1602
22	10.9%	10.8%	10.9%	1346
23	8.1%	9.6%	8.8%	1088
24	4.2%	5.4%	4.7%	584
25	3.1%	3.7%	3.4%	419
26	1.9%	2.0%	2.0%	245
27	1.0%	1.1%	1.0%	129
28	0.2%	0.3%	0.2%	30
29	0.5%	0.3%	0.4%	49
30	0.2%	0.2%	0.2%	25
	55.6%	44.4%	100.0%	12393
Mean	20.08	20.30	20.18	
SD	2.92	2.92	2.92	
Count*	6890	5503	12393	

\* Number of examinations given to examinees

**Table 16**  
**Dental Admission Test**  
**Biology by Gender**  
**2017**

Score	Females	Males	Total	Count
1	0.0%	0.0%	0.0%	2
2	0.0%	0.0%	0.0%	0
3	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	0
7	0.0%	0.0%	0.0%	0
8	0.1%	0.0%	0.0%	5
9	0.0%	0.0%	0.0%	4
10	0.1%	0.0%	0.1%	10
11	0.5%	0.3%	0.4%	48
12	1.2%	0.5%	0.9%	112
13	2.6%	1.6%	2.1%	264
14	5.4%	3.5%	4.6%	568
15	8.4%	4.9%	6.9%	849
16	10.6%	8.5%	9.7%	1197
17	12.9%	11.3%	12.2%	1516
18	13.3%	12.6%	13.0%	1608
19	13.3%	14.3%	13.7%	1699
20	10.6%	12.4%	11.4%	1410
21	8.1%	10.7%	9.3%	1148
22	5.3%	7.1%	6.1%	755
23	2.6%	4.5%	3.5%	431
24	2.6%	3.9%	3.2%	391
25	0.9%	1.2%	1.0%	128
26	0.8%	1.3%	1.0%	126
27	0.0%	0.0%	0.0%	0
28	0.3%	0.7%	0.5%	62
29	0.0%	0.0%	0.0%	0
30	0.4%	0.6%	0.5%	60
	55.6%	44.4%	100.0%	12393
Mean	18.22	19.08	18.60	
SD	3.03	3.06	3.08	
Count*	6890	5503	12393	

\* Number of examinations given to examinees

**Table 17**  
**Dental Admission Test**  
**General Chemistry by Gender**  
**2017**

Score	Females	Males	Total	Count
1	0.0%	0.0%	0.0%	3
2	0.0%	0.0%	0.0%	2
3	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	0
7	0.0%	0.0%	0.0%	1
8	0.0%	0.0%	0.0%	3
9	0.1%	0.1%	0.1%	11
10	0.3%	0.1%	0.2%	26
11	0.9%	0.2%	0.6%	78
12	2.1%	0.9%	1.6%	199
13	3.8%	1.7%	2.9%	358
14	5.7%	3.6%	4.8%	594
15	8.2%	5.8%	7.1%	883
16	8.8%	7.4%	8.2%	1017
17	9.5%	8.4%	9.0%	1116
18	13.1%	12.2%	12.7%	1575
19	12.8%	12.0%	12.5%	1544
20	11.9%	14.5%	13.0%	1617
21	7.0%	8.7%	7.8%	962
22	6.1%	7.9%	6.9%	855
23	3.0%	4.9%	3.8%	473
24	2.2%	3.4%	2.7%	336
25	1.0%	1.8%	1.4%	171
26	2.0%	3.2%	2.6%	317
27	0.6%	1.4%	0.9%	115
28	0.0%	0.0%	0.0%	0
29	0.4%	0.4%	0.4%	48
30	0.4%	1.1%	0.7%	89
	55.6%	44.4%	100.0%	12393
Mean	18.30	19.39	18.78	
SD	3.42	3.47	3.48	
Count*	6890	5503	12393	

\* Number of examinations given to examinees

**Table 18**  
**Dental Admission Test**  
**Organic Chemistry by Gender**  
**2017**

Score	Females	Males	Total	Count
1	0.1%	0.1%	0.1%	9
2	0.0%	0.0%	0.0%	0
3	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	1
5	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	0
7	0.0%	0.0%	0.0%	4
8	0.1%	0.1%	0.1%	14
9	0.3%	0.1%	0.2%	26
10	0.6%	0.3%	0.5%	62
11	1.5%	0.7%	1.2%	146
12	2.7%	1.4%	2.2%	267
13	4.5%	2.7%	3.7%	457
14	6.9%	4.6%	5.8%	724
15	8.3%	5.6%	7.1%	878
16	9.5%	7.5%	8.6%	1067
17	8.4%	7.5%	8.0%	994
18	10.6%	10.3%	10.5%	1299
19	11.3%	11.1%	11.2%	1388
20	8.0%	8.9%	8.4%	1038
21	7.8%	8.5%	8.1%	1004
22	6.3%	8.9%	7.5%	925
23	5.5%	8.9%	7.0%	871
24	1.9%	2.4%	2.1%	266
25	0.7%	1.5%	1.0%	127
26	2.8%	4.7%	3.7%	453
27	0.4%	0.6%	0.5%	59
28	0.5%	0.6%	0.5%	65
29	0.5%	1.1%	0.8%	93
30	0.8%	1.8%	1.3%	156
	55.6%	44.4%	100.0%	12393
Mean	18.25	19.52	18.81	
SD	3.87	4.00	3.98	
Count*	6890	5503	12393	

\* Number of examinations given to examinees

**Table 19**  
**Dental Admission Test**  
**Survey of the Natural Sciences by Gender**  
**2017**

Score	Females	Males	Total	Count
1	0.0%	0.0%	0.0%	2
2	0.0%	0.0%	0.0%	0
3	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	0
7	0.0%	0.0%	0.0%	0
8	0.0%	0.0%	0.0%	0
9	0.0%	0.0%	0.0%	0
10	0.1%	0.1%	0.1%	9
11	0.2%	0.2%	0.2%	23
12	1.2%	0.5%	0.9%	107
13	3.6%	1.6%	2.7%	335
14	5.9%	2.8%	4.5%	561
15	8.2%	5.5%	7.0%	867
16	10.7%	8.5%	9.7%	1208
17	12.0%	10.2%	11.2%	1388
18	13.2%	12.4%	12.9%	1594
19	13.6%	14.1%	13.8%	1712
20	10.8%	12.7%	11.6%	1443
21	7.9%	10.5%	9.1%	1127
22	5.7%	8.0%	6.7%	833
23	3.0%	5.6%	4.2%	519
24	2.0%	3.1%	2.5%	310
25	1.1%	2.3%	1.6%	200
26	0.4%	1.0%	0.7%	85
27	0.1%	0.3%	0.2%	27
28	0.2%	0.3%	0.2%	28
29	0.0%	0.0%	0.0%	0
30	0.1%	0.2%	0.1%	15
	55.6%	44.4%	100.0%	12393
Mean	18.15	19.15	18.59	
SD	2.93	2.96	2.99	
Count*	6890	5503	12393	

\* Number of examinations given to examinees

**Table 20**  
**Dental Admission Test**  
**Perceptual Ability by Gender**  
**2017**

Score	Females	Males	Total	Count
1	0.0%	0.0%	0.0%	0
2	0.0%	0.0%	0.0%	0
3	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	0
7	0.0%	0.0%	0.0%	0
8	0.0%	0.0%	0.0%	0
9	0.0%	0.0%	0.0%	0
10	0.0%	0.0%	0.0%	4
11	0.1%	0.2%	0.2%	19
12	0.6%	0.3%	0.5%	57
13	1.2%	1.0%	1.1%	139
14	3.4%	1.8%	2.7%	333
15	6.0%	3.4%	4.9%	602
16	9.6%	5.9%	7.9%	983
17	12.2%	8.9%	10.8%	1334
18	15.5%	12.0%	14.0%	1730
19	16.1%	15.0%	15.6%	1933
20	13.6%	16.0%	14.6%	1815
21	10.1%	13.7%	11.7%	1450
22	6.1%	9.5%	7.6%	944
23	2.8%	6.4%	4.4%	545
24	1.7%	3.2%	2.4%	295
25	0.7%	1.8%	1.2%	145
26	0.1%	0.5%	0.3%	31
27	0.1%	0.4%	0.2%	24
28	0.0%	0.1%	0.0%	4
29	0.0%	0.0%	0.0%	2
30	0.0%	0.0%	0.0%	4
	55.6%	44.4%	100.0%	12393
Mean	18.55	19.51	18.98	
SD	2.51	2.64	2.61	
Count*	6890	5503	12393	

\* Number of examinations given to examinees

**Table 21**  
**Dental Admission Test**  
**Academic Average by Gender**  
**2017**

Score	Females	Males	Total	Count
1	0.0%	0.0%	0.0%	0
2	0.0%	0.0%	0.0%	0
3	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	0
7	0.0%	0.0%	0.0%	1
8	0.0%	0.0%	0.0%	2
9	0.0%	0.0%	0.0%	0
10	0.0%	0.0%	0.0%	0
11	0.1%	0.1%	0.1%	14
12	0.4%	0.3%	0.3%	42
13	1.7%	0.6%	1.2%	148
14	3.8%	1.7%	2.9%	357
15	7.2%	3.8%	5.7%	705
16	10.8%	7.7%	9.4%	1166
17	13.0%	10.5%	11.9%	1471
18	14.9%	13.0%	14.0%	1741
19	14.2%	14.8%	14.4%	1789
20	12.0%	14.7%	13.2%	1634
21	9.0%	11.3%	10.0%	1244
22	6.3%	8.6%	7.3%	907
23	3.2%	5.9%	4.4%	544
24	1.9%	3.8%	2.8%	341
25	1.0%	1.8%	1.3%	167
26	0.4%	1.1%	0.7%	88
27	0.1%	0.3%	0.2%	24
28	0.0%	0.1%	0.1%	7
29	0.0%	0.0%	0.0%	1
30	0.0%	0.0%	0.0%	0
	55.6%	44.4%	100.0%	12393
Mean	18.47	19.39	18.88	
SD	2.67	2.68	2.71	
Count*	6890	5503	12393	

\* Number of examinations given to examinees



**Table 22**  
**Dental Admission Test**  
**Quantitative Reasoning by Ethnicity**  
**2017**

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1
2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1
7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2
9	0.0%	0.1%	0.0%	0.7%	0.3%	0.0%	0.1%	16
10	0.0%	0.2%	0.0%	1.6%	0.5%	0.2%	0.4%	42
11	0.0%	0.5%	0.0%	3.0%	1.2%	0.3%	0.7%	81
12	3.6%	1.0%	0.0%	5.1%	4.5%	1.2%	1.9%	219
13	12.7%	2.5%	0.0%	10.9%	5.8%	3.0%	3.8%	451
14	20.0%	4.1%	2.9%	14.8%	8.6%	5.0%	6.0%	706
15	16.4%	6.8%	17.1%	16.9%	13.0%	8.8%	9.5%	1115
16	7.3%	8.5%	5.7%	16.2%	14.6%	12.8%	12.1%	1421
17	10.9%	10.3%	22.9%	9.6%	13.0%	13.7%	12.4%	1460
18	14.5%	11.8%	37.1%	7.1%	10.5%	14.4%	12.7%	1501
19	3.6%	12.5%	2.9%	6.1%	9.6%	13.0%	11.9%	1398
20	1.8%	9.0%	5.7%	2.9%	6.1%	8.1%	7.7%	905
21	1.8%	7.6%	2.9%	2.6%	3.7%	6.5%	6.1%	722
22	5.5%	7.0%	2.9%	0.6%	2.7%	4.7%	4.8%	564
23	0.0%	5.5%	0.0%	1.2%	2.2%	3.2%	3.5%	415
24	0.0%	3.9%	0.0%	0.6%	1.6%	1.8%	2.2%	262
25	0.0%	3.8%	0.0%	0.0%	1.1%	1.7%	2.0%	241
26	1.8%	0.2%	0.0%	0.0%	0.1%	0.1%	0.2%	18
27	0.0%	0.4%	0.0%	0.0%	0.1%	0.1%	0.2%	20
28	0.0%	2.4%	0.0%	0.0%	0.3%	0.7%	1.1%	127
29	0.0%	0.4%	0.0%	0.0%	0.1%	0.1%	0.2%	18
30	0.0%	1.4%	0.0%	0.1%	0.4%	0.3%	0.6%	73
	0.5%	27.2%	0.3%	7.6%	12.4%	52.1%	100.0%	11779
Mean	16.09	19.21	17.37	15.56	16.97	18.07	18.04	
SD	2.89	3.75	1.77	2.73	3.21	3.06	3.40	
Count*	55	3201	35	896	1457	6135	11779	

\* Number of examinations given to examinees

**Table 23**  
**Dental Admission Test**  
**Reading Comprehension by Ethnicity**  
**2017**

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	2
2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
9	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	1
10	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	4
11	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	7
12	0.0%	0.2%	0.0%	0.8%	0.5%	0.2%	0.2%	29
13	0.0%	0.3%	0.0%	1.3%	0.8%	0.4%	0.5%	57
14	1.8%	1.2%	0.0%	3.6%	2.2%	0.9%	1.3%	157
15	7.3%	1.9%	0.0%	3.8%	4.0%	1.7%	2.2%	265
16	10.9%	5.0%	8.6%	9.7%	6.7%	4.5%	5.3%	629
17	3.6%	7.1%	2.9%	12.5%	8.3%	6.7%	7.4%	872
18	9.1%	10.1%	8.6%	13.6%	11.9%	10.1%	10.6%	1243
19	14.5%	13.3%	17.1%	14.6%	14.3%	12.9%	13.3%	1572
20	12.7%	13.5%	22.9%	13.1%	11.7%	14.6%	13.9%	1633
21	9.1%	13.8%	5.7%	11.5%	11.7%	13.2%	13.0%	1533
22	18.2%	10.7%	11.4%	6.9%	9.6%	12.1%	11.0%	1298
23	7.3%	9.3%	17.1%	4.4%	7.6%	9.7%	9.0%	1055
24	3.6%	5.3%	0.0%	2.3%	4.2%	5.0%	4.7%	559
25	1.8%	3.5%	2.9%	0.8%	3.5%	3.7%	3.4%	400
26	0.0%	2.6%	0.0%	0.2%	1.6%	2.0%	2.0%	235
27	0.0%	1.2%	2.9%	0.4%	0.5%	1.2%	1.1%	125
28	0.0%	0.3%	0.0%	0.0%	0.2%	0.3%	0.3%	30
29	0.0%	0.5%	0.0%	0.0%	0.3%	0.5%	0.4%	49
30	0.0%	0.2%	0.0%	0.0%	0.1%	0.3%	0.2%	24
	0.5%	27.2%	0.3%	7.6%	12.4%	52.1%	100.0%	11779
Mean	19.56	20.38	20.37	18.76	19.74	20.45	20.21	
SD	2.74	2.92	2.52	2.76	3.01	2.86	2.92	
Count*	55	3201	35	896	1457	6135	11779	

\* Number of examinations given to examinees

**Table 24  
Dental Admission Test  
Biology by Ethnicity  
2017**

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	2
2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
8	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	5
9	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%	0.0%	4
10	1.8%	0.1%	0.0%	0.1%	0.0%	0.1%	0.1%	10
11	1.8%	0.3%	0.0%	1.6%	0.1%	0.2%	0.3%	41
12	0.0%	0.5%	0.0%	3.2%	0.9%	0.7%	0.9%	104
13	1.8%	1.4%	2.9%	4.8%	2.6%	1.9%	2.1%	247
14	5.5%	3.3%	2.9%	9.9%	5.5%	4.3%	4.6%	541
15	10.9%	5.4%	2.9%	12.8%	7.8%	6.4%	6.8%	800
16	21.8%	8.1%	17.1%	14.2%	10.9%	9.3%	9.6%	1134
17	12.7%	10.9%	17.1%	13.8%	13.0%	12.5%	12.2%	1442
18	16.4%	12.2%	8.6%	13.2%	12.6%	13.5%	13.0%	1532
19	7.3%	13.7%	20.0%	8.8%	11.5%	15.1%	13.8%	1624
20	9.1%	12.7%	5.7%	7.0%	8.6%	12.2%	11.4%	1347
21	3.6%	11.4%	5.7%	4.6%	8.8%	9.1%	9.3%	1098
22	3.6%	7.7%	14.3%	2.0%	5.9%	5.8%	6.1%	715
23	3.6%	4.2%	0.0%	1.3%	4.3%	3.0%	3.4%	396
24	0.0%	4.0%	2.9%	1.5%	3.5%	3.0%	3.2%	377
25	0.0%	1.2%	0.0%	0.4%	1.0%	1.0%	1.0%	122
26	0.0%	1.3%	0.0%	0.2%	1.4%	0.9%	1.0%	119
27	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
28	0.0%	0.9%	0.0%	0.0%	0.6%	0.4%	0.5%	61
29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
30	0.0%	0.7%	0.0%	0.0%	0.7%	0.4%	0.5%	58
	0.5%	27.2%	0.3%	7.6%	12.4%	52.1%	100.0%	11779
Mean	17.22	19.14	18.37	16.84	18.53	18.63	18.61	
SD	2.67	3.13	2.57	2.87	3.26	2.93	3.07	
Count*	55	3201	35	896	1457	6135	11779	

\* Number of examinations given to examinees

**Table 25**  
**Dental Admission Test**  
**General Chemistry by Ethnicity**  
**2017**

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	3
2	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	2
3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1
8	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	2
9	0.0%	0.1%	0.0%	0.7%	0.0%	0.1%	0.1%	12
10	1.8%	0.2%	0.0%	0.6%	0.1%	0.2%	0.2%	24
11	0.0%	0.3%	2.9%	2.9%	0.4%	0.5%	0.6%	71
12	3.6%	0.8%	0.0%	5.4%	1.9%	1.4%	1.6%	188
13	12.7%	1.6%	0.0%	8.3%	4.0%	2.3%	2.8%	334
14	12.7%	2.4%	2.9%	11.0%	6.0%	4.6%	4.7%	554
15	5.5%	5.0%	2.9%	12.3%	8.0%	7.2%	7.1%	832
16	16.4%	5.6%	14.3%	10.3%	10.4%	8.6%	8.2%	965
17	14.5%	6.3%	5.7%	9.6%	9.8%	10.1%	9.0%	1063
18	9.1%	11.4%	20.0%	14.0%	12.7%	13.4%	12.8%	1511
19	7.3%	12.7%	20.0%	7.7%	12.5%	13.1%	12.5%	1472
20	5.5%	14.9%	8.6%	8.4%	11.3%	13.4%	13.1%	1546
21	0.0%	9.8%	8.6%	3.7%	7.4%	7.5%	7.8%	919
22	7.3%	9.9%	8.6%	1.7%	6.0%	6.4%	6.9%	818
23	0.0%	5.5%	0.0%	1.1%	2.7%	3.4%	3.7%	434
24	1.8%	3.9%	2.9%	0.8%	2.4%	2.5%	2.7%	322
25	1.8%	2.2%	2.9%	0.3%	0.9%	1.2%	1.4%	163
26	0.0%	3.9%	0.0%	0.9%	2.1%	2.3%	2.6%	304
27	0.0%	1.5%	0.0%	0.2%	0.5%	0.8%	0.9%	109
28	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
29	0.0%	0.6%	0.0%	0.0%	0.4%	0.3%	0.4%	45
30	0.0%	1.3%	0.0%	0.1%	0.3%	0.6%	0.7%	85
	0.5%	27.2%	0.3%	7.6%	12.4%	52.1%	100.0%	11779
Mean	16.56	19.85	18.60	16.47	18.31	18.72	18.79	
SD	3.18	3.51	2.78	3.23	3.31	3.31	3.47	
Count*	55	3201	35	896	1457	6135	11779	

\* Number of examinations given to examinees

**Table 26**  
**Dental Admission Test**  
**Organic Chemistry by Ethnicity**  
**2017**

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.2%	0.0%	0.1%	0.0%	0.0%	0.1%	7
2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1
5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
7	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	4
8	0.0%	0.1%	0.0%	0.3%	0.2%	0.1%	0.1%	13
9	0.0%	0.1%	0.0%	0.7%	0.3%	0.1%	0.2%	24
10	3.6%	0.3%	0.0%	1.6%	0.7%	0.4%	0.5%	58
11	3.6%	0.6%	0.0%	3.8%	1.5%	1.0%	1.2%	140
12	10.9%	1.1%	0.0%	7.3%	2.3%	1.8%	2.1%	248
13	1.8%	2.7%	8.6%	7.5%	3.9%	3.4%	3.6%	425
14	16.4%	4.5%	8.6%	11.8%	5.8%	5.5%	5.8%	686
15	10.9%	5.1%	2.9%	11.5%	7.3%	7.4%	7.0%	829
16	10.9%	7.0%	11.4%	10.7%	10.8%	8.5%	8.5%	1007
17	10.9%	7.0%	14.3%	7.9%	8.9%	8.4%	8.1%	951
18	7.3%	10.2%	11.4%	9.6%	10.4%	10.7%	10.4%	1228
19	7.3%	10.7%	11.4%	8.3%	11.1%	12.1%	11.3%	1330
20	1.8%	8.9%	5.7%	6.8%	7.7%	8.5%	8.3%	981
21	9.1%	9.3%	0.0%	3.3%	7.7%	8.4%	8.1%	958
22	0.0%	9.2%	8.6%	3.7%	7.3%	7.4%	7.5%	887
23	1.8%	9.4%	5.7%	2.5%	6.1%	7.0%	7.2%	843
24	1.8%	2.8%	8.6%	1.0%	1.6%	2.1%	2.1%	253
25	0.0%	1.7%	0.0%	0.3%	0.7%	1.0%	1.1%	126
26	0.0%	4.5%	0.0%	0.8%	3.5%	3.6%	3.6%	425
27	0.0%	0.6%	2.9%	0.0%	0.3%	0.5%	0.5%	57
28	0.0%	1.0%	0.0%	0.2%	0.5%	0.4%	0.5%	63
29	0.0%	1.1%	0.0%	0.1%	0.3%	0.7%	0.7%	85
30	1.8%	1.9%	0.0%	0.1%	1.2%	1.1%	1.3%	150
	0.5%	27.2%	0.3%	7.6%	12.4%	52.1%	100.0%	11779
Mean	16.20	19.69	18.40	16.35	18.47	18.87	18.83	
SD	3.79	4.04	3.62	3.58	3.89	3.84	3.97	
Count*	55	3201	35	896	1457	6135	11779	

\* Number of examinations given to examinees

**Table 27**  
**Dental Admission Test**  
**Survey of the Natural Sciences by Ethnicity**  
**2017**

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	2
2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
9	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
10	0.0%	0.1%	0.0%	0.3%	0.0%	0.0%	0.1%	8
11	1.8%	0.1%	0.0%	1.1%	0.1%	0.1%	0.2%	21
12	1.8%	0.4%	0.0%	3.6%	1.1%	0.6%	0.8%	99
13	7.3%	1.7%	2.9%	8.5%	2.7%	2.2%	2.6%	310
14	12.7%	2.7%	2.9%	12.3%	5.4%	4.0%	4.5%	525
15	16.4%	4.9%	5.7%	12.1%	8.5%	6.9%	7.0%	826
16	16.4%	6.7%	5.7%	14.4%	11.5%	9.9%	9.6%	1133
17	1.8%	10.0%	22.9%	10.8%	11.5%	11.8%	11.2%	1316
18	20.0%	11.7%	14.3%	12.8%	13.4%	13.6%	13.0%	1534
19	9.1%	14.2%	22.9%	11.0%	11.0%	14.8%	13.9%	1637
20	1.8%	13.4%	2.9%	5.2%	11.5%	12.0%	11.7%	1383
21	5.5%	10.7%	5.7%	3.0%	8.1%	9.4%	9.1%	1066
22	1.8%	9.1%	5.7%	2.2%	6.9%	6.0%	6.6%	783
23	1.8%	6.0%	2.9%	1.5%	4.0%	3.9%	4.3%	504
24	1.8%	3.7%	5.7%	0.6%	2.1%	2.2%	2.5%	292
25	0.0%	2.7%	0.0%	0.3%	1.2%	1.4%	1.6%	193
26	0.0%	1.0%	0.0%	0.0%	0.7%	0.6%	0.7%	82
27	0.0%	0.2%	0.0%	0.0%	0.3%	0.2%	0.2%	25
28	0.0%	0.4%	0.0%	0.1%	0.0%	0.2%	0.2%	25
29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
30	0.0%	0.2%	0.0%	0.0%	0.1%	0.1%	0.1%	15
	0.5%	27.2%	0.3%	7.6%	12.4%	52.1%	100.0%	11779
Mean	16.62	19.36	18.40	16.52	18.34	18.60	18.60	
SD	2.80	3.00	2.59	2.80	2.96	2.83	2.98	
Count*	55	3201	35	896	1457	6135	11779	

\* Number of examinations given to examinees

**Table 28**  
**Dental Admission Test**  
**Perceptual Ability by Ethnicity**  
**2017**

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
9	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
10	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	4
11	1.8%	0.2%	0.0%	1.1%	0.0%	0.0%	0.2%	18
12	0.0%	0.4%	0.0%	2.0%	0.7%	0.3%	0.5%	56
13	0.0%	0.7%	0.0%	4.5%	1.4%	0.7%	1.1%	125
14	5.5%	2.1%	0.0%	10.3%	2.9%	1.8%	2.7%	313
15	5.5%	4.1%	8.6%	11.3%	6.0%	3.9%	4.8%	563
16	16.4%	5.7%	14.3%	15.7%	9.9%	7.1%	7.8%	920
17	20.0%	9.2%	8.6%	14.8%	13.2%	10.3%	10.7%	1262
18	7.3%	12.7%	20.0%	13.7%	15.6%	14.2%	13.9%	1639
19	16.4%	15.1%	5.7%	12.3%	14.8%	16.8%	15.7%	1851
20	9.1%	15.4%	20.0%	7.9%	14.7%	15.3%	14.7%	1727
21	7.3%	13.2%	11.4%	3.6%	9.6%	12.7%	11.8%	1385
22	7.3%	9.8%	5.7%	1.3%	5.1%	8.2%	7.7%	906
23	0.0%	5.8%	0.0%	0.8%	3.1%	4.8%	4.5%	530
24	1.8%	3.4%	2.9%	0.2%	1.9%	2.2%	2.3%	276
25	1.8%	1.6%	2.9%	0.2%	0.6%	1.3%	1.2%	142
26	0.0%	0.4%	0.0%	0.0%	0.4%	0.2%	0.3%	30
27	0.0%	0.2%	0.0%	0.1%	0.1%	0.2%	0.2%	22
28	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4
29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2
30	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	4
	0.5%	27.2%	0.3%	7.6%	12.4%	52.1%	100.0%	11779
Mean	18.05	19.43	18.77	16.88	18.55	19.20	19.00	
SD	2.67	2.64	2.50	2.47	2.52	2.47	2.61	
Count*	55	3201	35	896	1457	6135	11779	

\* Number of examinations given to examinees

**Table 29  
Dental Admission Test  
Academic Average by Ethnicity  
2017**

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
7	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	1
8	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	2
9	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
11	0.0%	0.1%	0.0%	0.7%	0.1%	0.0%	0.1%	13
12	0.0%	0.2%	0.0%	1.9%	0.3%	0.2%	0.3%	40
13	3.6%	0.7%	0.0%	5.0%	1.5%	0.7%	1.1%	134
14	10.9%	1.7%	2.9%	9.9%	4.0%	2.0%	2.8%	334
15	10.9%	3.7%	2.9%	12.7%	7.8%	5.0%	5.6%	659
16	23.6%	6.1%	5.7%	17.5%	12.5%	8.8%	9.2%	1087
17	10.9%	8.9%	17.1%	14.6%	13.2%	12.6%	11.9%	1396
18	12.7%	13.0%	28.6%	14.5%	12.5%	14.9%	14.1%	1662
19	10.9%	13.8%	17.1%	9.4%	14.7%	15.5%	14.5%	1703
20	3.6%	14.6%	5.7%	6.1%	12.1%	14.1%	13.3%	1568
21	5.5%	12.4%	5.7%	3.8%	8.4%	10.3%	10.1%	1192
22	3.6%	9.2%	11.4%	2.8%	5.8%	7.4%	7.3%	864
23	3.6%	6.9%	0.0%	0.6%	3.4%	4.0%	4.4%	521
24	0.0%	4.5%	2.9%	0.2%	2.2%	2.5%	2.8%	329
25	0.0%	2.3%	0.0%	0.0%	0.8%	1.2%	1.4%	162
26	0.0%	1.4%	0.0%	0.1%	0.5%	0.5%	0.7%	82
27	0.0%	0.4%	0.0%	0.0%	0.1%	0.1%	0.2%	23
28	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.1%	6
29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1
30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
	0.5%	27.2%	0.3%	7.6%	12.4%	52.1%	100.0%	11779
Mean	17.15	19.65	18.60	16.79	18.41	18.95	18.90	
SD	2.51	2.77	2.16	2.44	2.68	2.53	2.71	
Count*	55	3201	35	896	1457	6135	11779	

\* Number of examinations given to examinees



**Table 30**  
**Dental Admission Test**  
**DAT scores by Examinees of Hispanic Origin**  
**2017**

Score	QRT	RCT	BIO	GCH	OCH	SNS	PAT	AA
1	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	0.0%
2	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%
3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
8	0.0%	0.0%	0.0%	0.3%	0.3%	0.0%	0.0%	0.0%
9	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%
10	0.6%	0.0%	0.0%	0.3%	1.6%	0.3%	0.0%	0.3%
11	1.6%	0.0%	1.3%	1.9%	1.6%	0.6%	0.0%	0.3%
12	4.4%	0.0%	1.9%	3.2%	4.8%	1.9%	0.3%	0.6%
13	6.7%	0.6%	5.1%	6.7%	7.0%	7.3%	3.2%	3.2%
14	15.6%	2.9%	5.7%	8.3%	7.0%	7.9%	3.8%	6.3%
15	14.9%	6.7%	12.1%	9.8%	8.6%	9.2%	7.9%	10.2%
16	18.1%	6.0%	10.8%	10.8%	11.7%	15.9%	12.7%	18.7%
17	12.1%	12.4%	12.4%	10.2%	7.6%	10.5%	12.4%	13.7%
18	10.2%	15.9%	14.0%	10.5%	12.7%	11.1%	17.8%	13.7%
19	6.7%	18.1%	11.4%	10.5%	9.8%	12.4%	13.7%	14.6%
20	2.9%	13.7%	8.6%	11.1%	8.3%	6.7%	9.2%	6.7%
21	2.5%	8.9%	4.8%	4.8%	6.0%	5.7%	8.9%	4.8%
22	1.6%	6.3%	4.8%	3.5%	3.2%	5.4%	5.7%	2.9%
23	0.3%	3.5%	3.5%	3.5%	3.2%	1.9%	2.5%	1.6%
24	0.3%	2.2%	1.6%	1.6%	1.6%	2.2%	1.9%	1.6%
25	1.0%	1.9%	1.0%	1.0%	0.0%	0.3%	0.0%	1.0%
26	0.3%	0.6%	1.0%	1.0%	2.5%	0.3%	0.0%	0.0%
27	0.0%	0.3%	0.0%	0.3%	0.0%	0.3%	0.0%	0.0%
28	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
29	0.0%	0.0%	0.0%	0.6%	0.6%	0.0%	0.0%	0.0%
30	0.3%	0.0%	0.3%	0.0%	0.3%	0.0%	0.0%	0.0%
Mean	16.11	18.91	17.68	17.41	17.17	17.38	18.11	17.46
SD	2.75	2.57	3.11	3.55	4.04	3.03	2.53	2.58
Count*	315	315	315	315	315	315	315	315

\* Number of examinations given to examinees

**Figure 1**  
**Survey of the Natural Sciences**  
**Biology Content Specifications**  
**40 items**

- I. Cell and Molecular Biology**
  - A. Origin of Life
  - B. Cell metabolism (including photosynthesis/ enzymology)
  - C. Cellular Processes
  - D. Thermodynamics
  - E. Organelle structure and function
  - F. Mitosis / Meiosis
  - G. Cell structure
  - H. Experimental cell biology
  - I. Biomolecules
  - J. Integrated Relationships
  
- II. Diversity of Life: Biological Organization and Relationship of Major Taxa (Six-Kingdom Three-Domain System)**
  - A. Plantae
  - B. Animalia
  - C. Protista
  - D. Fungi
  - E. Eubacteria (Bacteria)
  - F. Archae
  - G. Integrated Relationships
  
- III. Structure and Function of Systems**
  - A. Integumentary
  - B. Skeletal
  - C. Muscular
  - D. Circulatory
  - E. Immunological
  - F. Digestive
  - G. Respiratory
  - H. Urinary
  - I. Nervous/senses
  - J. Endocrine
  - K. Reproductive
  - L. Integrated Relationships
  
- IV. Developmental Biology**
  - A. Fertilization
  - B. Descriptive embryology
  - C. Developmental mechanisms
  - D. Integrated Relationships
  
- V. Genetics**
  - A. Molecular genetics
  - B. Human genetics
  - C. Classical genetics
  - D. Chromosomal genetics
  - E. Genetic technology
  - F. Integrated Relationships
  
- VI. Evolution, Ecology, and Behavior**
  - A. Natural Selection
  - B. Population genetics/speciation
  - C. Population and community ecology
  - D. Ecosystems
  - E. Animal behavior (including social)
  - F. Integrated Relationships

**Figure 2**  
**Survey of the Natural Sciences**  
**General Chemistry Content Specifications**  
**30 items**

- |  |  |
|--|--|
| <p><b>I. Stoichiometry and General Concepts</b></p> <ul style="list-style-type: none"> <li>A. Percent composition</li> <li>B. Empirical formulae</li> <li>C. Balancing equations</li> <li>D. Moles and molecular formulas</li> <li>E. Molar mass</li> <li>F. Density</li> <li>G. Calculations from balanced equations</li> </ul> | <p>E. Heat transfer</p>  |
| <p><b>II. Gases</b></p> <ul style="list-style-type: none"> <li>A. Kinetic molecular theory of gases</li> <li>B. Dalton's gas law</li> <li>C. Boyle's gas law</li> <li>D. Charles's gas law</li> <li>E. Ideal gas law</li> </ul>  | <p><b>VIII. Chemical Kinetics</b></p> <ul style="list-style-type: none"> <li>A. Rate Laws</li> <li>B. Activation Energy</li> <li>C. Half-life</li> </ul>   |
| <p><b>III. Liquids and Solids</b></p> <ul style="list-style-type: none"> <li>A. Intermolecular forces</li> <li>B. Phase changes</li> <li>C. Vapor pressure</li> <li>D. Structures</li> <li>E. Polarity</li> <li>F. Properties</li> </ul>   | <p><b>IX. Oxidation-Reduction Reactions</b></p> <ul style="list-style-type: none"> <li>A. Balancing equations</li> <li>B. Determination of oxidation numbers</li> <li>C. Electrochemical calculations</li> <li>D. Electrochemical concepts and terminology</li> </ul>  |
| <p><b>IV. Solutions</b></p> <ul style="list-style-type: none"> <li>A. Polarity</li> <li>B. Properties               <ul style="list-style-type: none"> <li>1. Colligative</li> <li>2. Non-colligative</li> </ul> </li> <li>C. Forces</li> <li>D. Concentration calculations</li> </ul>   | <p><b>X. Atomic and Molecular Structure</b></p> <ul style="list-style-type: none"> <li>A. Electron configuration</li> <li>B. Orbital types</li> <li>C. Lewis-Dot diagrams</li> <li>D. Atomic theory</li> <li>E. Quantum theory</li> <li>F. Molecular geometry</li> <li>G. Bond types</li> <li>H. Sub-atomic particles</li> </ul> |
| <p><b>V. Acids and Bases</b></p> <ul style="list-style-type: none"> <li>A. pH</li> <li>B. Strength</li> <li>C. Brønsted-Lowry reactions</li> <li>D. Calculations</li> </ul>  | <p><b>XI. Periodic Properties</b></p> <ul style="list-style-type: none"> <li>A. Representative elements</li> <li>B. Transition elements</li> <li>C. Periodic trends</li> <li>D. Descriptive chemistry</li> </ul>   |
| <p><b>VI. Chemical Equilibria</b></p> <ul style="list-style-type: none"> <li>A. Molecular</li> <li>B. Acid/base</li> <li>C. Precipitation</li> <li>D. Calculations</li> <li>E. Le Chatelier's principle</li> </ul>   | <p><b>XII. Nuclear Reactions</b></p> <ul style="list-style-type: none"> <li>A. Balancing equations</li> <li>B. Binding energy</li> <li>C. Decay processes</li> <li>D. Particles</li> <li>E. Terminology</li> </ul>   |
| <p><b>VII. Thermodynamics and Thermochemistry</b></p> <ul style="list-style-type: none"> <li>A. Laws of thermodynamics</li> <li>B. Hess's law</li> <li>C. Spontaneity</li> <li>D. Enthalpies and entropies</li> </ul>  | <p><b>XIII. Laboratory</b></p> <ul style="list-style-type: none"> <li>A. Basic Techniques</li> <li>B. Equipment</li> <li>C. Error analysis</li> <li>D. Safety</li> <li>E. Data analysis</li> </ul>   |

**Figure 3**  
**Survey of the Natural Sciences**  
**Organic Chemistry Content Specifications**  
**30 items**

- I. Mechanisms: Energetics and Structure**
  - A. Elimination
  - B. Addition
  - C. Free radical
  - D. Substitution mechanisms
  - E. Other
  
- II. Chemical and Physical Properties of Molecules**
  - A. Spectroscopy
    - 1.  $^1\text{H}$  NMR
    - 2.  $^{13}\text{C}$  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.)
  
- III. Stereochemistry (Structure Evaluation)**
  - A. Chirality
  - B. Isomer relationships
  - C. Conformations
  
- IV. Nomenclature (2)**
  - A. IUPAC rules
  - B. Functional groups in molecules
  
- V. 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
  - B. Aromatic
    - 1. General
    - 2. One-step
    - 3. Multi-step
  - C. Substitution/Elimination
    - 1. General
    - 2. One-step
    - 3. Multi-step
  - D. Aldehyde/Ketone
    - 1. General
    - 2. One-step
    - 3. Multi-step
  - E. Carboxylic acids and derivatives
    - 1. General
    - 2. One-step
    - 3. Multi-step
  - F. Other
    - 1. General
    - 2. One-step
    - 3. Multi-step
  
- VI. Acid-Base Chemistry**
  - A. Ranking Acidity/ basicity
    - 1. Structure analysis
    - 2. pH/pK<sub>a</sub> data analysis
  - B. Prediction of products and equilibria
  
- VII. Aromatics and Bonding**
  - A. Concept of aromaticity
  - B. Resonance
  - C. Atomic/molecular orbitals
  - D. Hybridization
  - E. Bond angles/lengths

**Figure 4**  
**Quantitative Reasoning**  
**Content Specifications**  
**40 items**

**I. Mathematics Problems**

**A. Algebra**

1. Equations and expressions
2. Inequalities
3. Exponential notation
4. Absolute value
5. Ratios and proportions
6. Graphical analysis

**B. Data Analysis, Interpretation, and Sufficiency**

**C. Quantitative Comparison**

**D. Probability and statistics**

**II. Applied Mathematics (Word) Problems**

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