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# Dental Admission Test (DAT) User's Manual 2016



# DENTAL ADMISSION TESTING PROGRAM USER'S MANUAL

2016

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## **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 2015-2016, there were 65 fully operational, accredited dental schools in the United States, and 24,117 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: 1) the tests must be suitable for group administration, 2) it must be a non-manual performance test, 3) the test must possess high reliability and not be subject to practice effects, and 4) the test must serve as an ability measure that discriminates 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†	1	2	3	1	2	3	1	2	3	1	2	3
Percentage	50%	36%	14%	15%	68%	18%	21%	58%	21%	19%	55%	26%
<b>DAT #2</b>												
Cognitive Level†	1	2	3	1	2	3	1	2	3	1	2	3
Percentage	54%	36%	10%	17%	56%	27%	19%	66%	15%	23%	53%	24%

† 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). This 50-item test consists of three reading passages of approximately 1,100-1,500 words each. The subjects of these passages are developed from aspects of basic science that are covered in an undergraduate curriculum. Each passage is followed by 16-18 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 items of mathematical problems and 20 items of applied mathematics. Beginning in spring 1990, the length of the QRT was reduced to 40 items to resolve several problems associated with this test (Smith, Kramer, & Kubiak, 1989, 1990). The test now consists of 30 items of mathematical problems and 10 items of applied mathematics. The content specifications for the QRT are listed in Figure 4. There are no advanced mathematics or calculus problems. The knowledge of basic mathematics, trigonometry and geometry, and algebra required of a first-year college student in preparation for college science courses is assumed in 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 the chart 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 Committee (renamed as Test Construction Team in 2017) members who are faculty members from accredited colleges and universities. Newly developed items are reviewed by test construction committees 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 committees 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 percentage 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 2016 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), 0.79 to 0.88; Reading Comprehension Test (50 items), 0.81 to 0.83; Survey of the Natural Sciences Test (100 items), 0.92 to 0.93; and Perceptual Ability Test (90 items), 0.89 to 0.90. 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 2016 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 committee 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 basic 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 predental GPAs and DAT scores in the 2014-2015 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 score have a stronger relationship with first year performance than predental 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 predental 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, 2016.* 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 predental GPAs) and student performance during the first two years of dental school.
- C. *Dental Admission Test (DAT) Examinee Information, 2016.* 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 †		2006		2011		2016	
	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	0.0	0.0	0.1
8	0.1	0.2	0.2	0.3	0.0	0.1	0.0	0.1
9	0.1	0.3	0.4	0.6	0.1	0.1	0.1	0.2
10	0.6	0.8	1.1	1.7	0.4	0.6	0.4	0.7
11	1.7	2.5	2.2	3.9	1.1	1.7	1.1	1.7
12	5.2	7.7	4.3	8.1	2.3	4.0	1.9	3.6
13	9.8	17.5	8.2	16.3	4.4	8.4	3.9	7.4
14	12.7	30.2	11.8	28.1	7.9	16.3	7.4	14.9
15	16.1	46.3	13.4	41.5	10.3	26.6	10.2	25.1
16	19.3	65.6	13.7	55.2	15.5	42.1	12.9	38.0
17	12.1	77.7	12.3	67.4	13.6	55.7	11.7	49.8
18	9.2	86.9	9.7	77.2	12.3	68.0	13.8	63.5
19	8.1	94.9	7.8	85.0	12.4	80.3	11.8	75.3
20	2.0	96.9	4.5	89.5	6.3	86.7	6.9	82.2
21	1.9	98.8	3.5	93.0	6.3	93.0	6.3	88.5
22	0.6	99.4	2.4	95.4	2.9	95.9	4.3	92.8
23	0.2	99.7	1.5	96.9	0.8	96.7	2.5	95.4
24	0.3	100.0	0.5	97.4	1.8	98.5	1.4	96.8
25	0.0	100.0	0.6	98.0	0.1	98.6	0.6	97.4
26	0.0	100.0	1.0	99.0	0.6	99.2	0.8	98.2
27	0.0	100.0	0.0	99.0	0.3	99.6	0.6	98.8
28	0.0	100.0	0.3	99.3	0.0	99.6	0.0	98.8
29	0.0	100.0	0.4	99.7	0.0	99.6	0.6	99.4
30	0.0	100.0	0.3	100.0	0.4	100.0	0.6	100.0
Mean	15.75		16.47		17.29		17.71	
SD	2.39		3.32		3.00		3.32	
Count	2631		13290		13182		12740	

† Base Exam

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

Score	April 1989 †		2006		2011		2016	
	Percent	Cumulative Percent	Percent	Cumulative Percent	Cumulative Percent	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	0.0	0.0	0.0	0.0	0.1	0.0	0.1
10	0.1	0.2	0.1	0.2	0.1	0.1	0.0	0.1
11	0.8	1.0	0.2	0.4	0.1	0.2	0.1	0.1
12	1.2	2.2	0.6	1.0	0.4	0.6	0.2	0.4
13	2.1	4.3	1.2	2.2	0.9	1.5	0.4	0.8
14	3.6	7.9	2.7	4.9	2.2	3.7	1.1	1.8
15	8.6	16.5	4.4	9.2	4.7	8.3	2.6	4.5
16	9.7	26.2	8.8	18.0	7.2	15.5	4.8	9.3
17	13.1	39.3	9.8	27.8	10.8	26.3	7.6	16.8
18	15.7	55.0	13.0	40.8	11.7	38.0	11.0	27.8
19	15.4	70.4	15.5	56.3	15.4	53.5	12.0	39.8
20	12.8	83.2	13.2	69.5	11.8	65.3	17.2	57.0
21	7.0	90.2	13.2	82.7	11.6	76.8	13.2	70.2
22	5.7	95.9	6.4	89.1	9.5	86.4	12.0	82.2
23	1.6	97.4	4.6	93.7	4.8	91.2	8.2	90.4
24	1.1	98.5	3.0	96.8	3.7	94.9	3.6	94.0
25	0.7	99.2	1.6	98.4	2.7	97.6	3.0	97.0
26	0.6	99.9	0.6	99.0	1.2	98.8	1.8	98.8
27	0.0	99.9	0.8	99.8	0.3	99.1	0.7	99.5
28	0.1	100.0	0.0	99.8	0.7	99.7	0.3	99.8
29	0.0	100.0	0.2	100.0	0.0	99.8	0.1	99.9
30	0.0	100.0	0.0	100.0	0.2	100.0	0.1	100.0
Mean	18.12		19.10		19.42		20.10	
SD	2.70		2.83		2.96		2.76	
Count	2255		13290		13182		12740	

† Base Exam

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

Score	October 1988 †		2006		2011		2016	
	Percent	Cumulative Percent	Percent	Cumulative Percent	Cumulative Percent	Percent	Percent	Cumulative Percent
1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
4	0.0	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	0.1
6	0.0	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	0.1
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	0.1	0.0	0.1
10	2.1	3.1	0.2	0.2	0.2	0.3	0.1	0.2
11	4.6	7.7	0.6	0.8	0.5	0.8	0.3	0.5
12	9.5	17.2	1.5	2.3	1.2	2.0	0.9	1.4
13	12.2	29.5	3.0	5.3	2.7	4.7	1.9	3.3
14	13.4	42.9	6.8	12.1	5.1	9.8	3.5	6.8
15	16.3	59.1	9.4	21.5	8.2	18.0	7.3	14.0
16	10.6	69.8	13.2	34.7	13.0	31.0	9.5	23.5
17	14.0	83.8	15.0	49.7	14.0	45.0	13.3	36.9
18	7.4	91.2	14.4	64.1	15.3	60.3	14.0	50.9
19	4.3	95.5	13.7	77.8	13.9	74.2	13.8	64.7
20	1.7	97.2	9.6	87.5	12.1	86.2	13.1	77.8
21	1.4	98.6	4.5	91.9	4.9	91.2	7.7	85.5
22	0.8	99.4	4.1	96.0	4.1	95.3	6.0	91.4
23	0.3	99.6	2.0	98.0	1.9	97.2	4.0	95.4
24	0.0	99.6	0.6	98.7	1.7	98.9	2.4	97.8
25	0.3	99.9	0.8	99.4	0.2	99.0	0.4	98.3
26	0.0	99.9	0.2	99.7	0.6	99.6	1.1	99.4
27	0.0	99.9	0.1	99.7	0.1	99.7	0.1	99.5
28	0.1	100.0	0.2	100.0	0.1	99.8	0.3	99.8
29	0.0	100.0	0.0	100.0	0.0	99.8	0.0	99.8
30	0.0	100.0	0.0	100.0	0.2	100.0	0.2	100.0
Mean	15.05		17.60		17.87		18.53	
SD	2.66		2.72		2.73		2.91	
Count	2631		13290		13182		12740	

† Bas Exam

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

Score	October 1988 †		2006		2011		2016	
	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	0.1	0.1
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
4	0.0	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	0.1
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
7	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.1
8	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.1
9	1.1	1.3	0.0	0.1	0.0	0.1	0.0	0.1
10	1.5	2.9	0.2	0.2	0.2	0.3	0.1	0.2
11	4.9	7.7	0.6	0.8	0.5	0.8	0.3	0.5
12	8.9	16.6	1.5	2.3	1.2	2.0	0.9	1.4
13	10.3	26.9	3.0	5.3	2.7	4.7	1.9	3.3
14	12.9	39.9	6.8	12.1	5.1	9.8	3.5	6.8
15	12.9	52.8	9.4	21.5	8.2	18.0	7.3	14.0
16	11.6	64.3	13.2	34.7	13.0	31.0	9.5	23.5
17	10.6	75.0	15.0	49.7	14.0	45.0	13.3	36.9
18	9.9	84.8	14.4	64.1	15.3	60.3	14.0	50.9
19	4.5	89.3	13.7	77.8	13.9	74.2	13.8	64.7
20	3.2	92.5	9.6	87.5	12.1	86.2	13.1	77.8
21	3.4	95.9	4.5	91.9	4.9	91.2	7.7	85.5
22	2.1	98.1	4.1	96.0	4.1	95.3	6.0	91.4
23	1.1	99.1	2.0	98.0	1.9	97.2	4.0	95.4
24	0.0	99.1	0.6	98.7	1.7	98.9	2.4	97.8
25	0.0	99.1	0.8	99.4	0.2	99.0	0.4	98.3
26	0.7	99.8	0.2	99.7	0.6	99.6	1.1	99.4
27	0.0	99.8	0.1	99.7	0.1	99.7	0.1	99.5
28	0.0	99.8	0.2	100.0	0.1	99.8	0.3	99.8
29	0.2	100.0	0.0	100.0	0.0	99.8	0.0	99.8
30	0.0	100.0	0.0	100.0	0.2	100.0	0.2	100.0
Mean	15.54		17.60		17.87		18.53	
SD	3.14		2.72		2.73		2.91	
Count	2631		13290		13182		12740	

† Base Exam



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

Score	October 1988 †		2006		2011		2016	
	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent
1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
3	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.1
4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.1
5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.1
6	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.1
7	0.4	0.8	0.0	0.0	0.0	0.0	0.0	0.1
8	0.5	1.4	0.1	0.2	0.0	0.1	0.0	0.1
9	3.2	4.6	0.2	0.4	0.1	0.2	0.1	0.3
10	2.9	7.5	0.7	1.1	0.2	0.4	0.3	0.6
11	7.6	15.1	2.1	3.2	0.7	1.0	0.4	1.1
12	10.1	25.2	3.2	6.4	1.6	2.6	1.4	2.5
13	16.0	41.3	4.6	11.0	3.3	5.9	2.6	5.0
14	11.4	52.6	6.4	17.5	5.9	11.8	4.3	9.4
15	10.3	62.9	8.5	26.0	7.6	19.4	7.3	16.7
16	14.3	77.2	13.8	39.8	10.1	29.5	9.9	26.5
17	4.4	81.5	11.1	50.9	12.0	41.5	10.6	37.1
18	7.6	89.2	11.9	62.8	14.4	55.8	11.6	48.7
19	3.4	92.6	11.8	74.6	9.2	65.0	15.4	64.1
20	2.3	94.9	8.0	82.6	10.9	75.9	9.1	73.2
21	2.3	97.2	6.0	88.6	8.1	84.1	8.5	81.7
22	1.6	98.8	1.9	90.5	6.1	90.1	7.1	88.8
23	0.0	98.8	5.0	95.5	3.5	93.6	5.2	94.0
24	1.0	99.8	0.0	95.5	2.2	95.9	2.6	96.5
25	0.0	99.8	2.5	97.9	1.6	97.5	0.6	97.1
26	0.0	99.8	0.7	98.6	1.0	98.5	1.4	98.5
27	0.2	100.0	0.6	99.2	0.1	98.6	0.8	99.3
28	0.0	100.0	0.0	99.2	0.3	98.9	0.1	99.4
29	0.0	100.0	0.8	100.0	0.9	99.8	0.1	99.5
30	0.0	100.0	0.0	100.0	0.2	100.0	0.5	100.0
Mean	14.58		17.58		18.34		18.59	
SD	3.25		3.47		3.34		3.30	
Count	2631		13290		13182		12740	

† Base Exam

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

Score	October 1988 †		2006		2011		2016	
	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	0.1	0.1
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
4	0.0	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	0.1
6	0.0	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	0.1
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
9	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1
10	1.1	1.2	0.2	0.2	0.1	0.1	0.0	0.1
11	4.0	5.2	0.9	1.1	0.3	0.4	0.2	0.3
12	7.7	13.0	1.9	3.0	1.0	1.4	1.0	1.4
13	12.5	25.4	4.3	7.3	2.7	4.1	2.0	3.4
14	18.4	43.8	6.9	14.2	5.6	9.6	4.1	7.5
15	14.3	58.2	10.0	24.2	8.5	18.2	7.2	14.7
16	14.0	72.2	13.1	37.3	11.5	29.7	10.1	24.8
17	11.4	83.5	14.4	51.8	14.4	44.0	12.2	37.1
18	7.7	91.3	13.5	65.3	14.6	58.7	14.0	51.1
19	5.0	96.3	12.2	77.5	14.6	73.2	14.4	65.5
20	1.5	97.8	9.5	87.1	10.1	83.3	12.3	77.8
21	1.1	98.9	6.0	93.1	7.5	90.8	8.9	86.6
22	0.8	99.6	3.3	96.4	4.5	95.3	6.2	92.9
23	0.1	99.7	1.9	98.3	2.0	97.4	3.3	96.2
24	0.2	99.8	1.1	99.4	1.3	98.7	2.0	98.2
25	0.1	99.9	0.3	99.6	0.7	99.4	0.8	99.1
26	0.1	100.0	0.2	99.9	0.3	99.7	0.7	99.7
27	0.0	100.0	0.0	99.9	0.1	99.9	0.1	99.9
28	0.0	100.0	0.0	99.9	0.1	99.9	0.1	100.0
29	0.0	100.0	0.1	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	15.14		17.44		17.96		18.43	
SD	2.43		2.75		2.69		2.82	
Count	2631		13290		13182		12740	

† Base Exam

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

Score	October 1988 †		2006		2011		2016	
	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	0.1	0.1	0.0	0.0	0.0	0.0
9	0.1	0.1	0.2	0.2	0.0	0.1	0.0	0.0
10	0.2	0.3	0.4	0.7	0.2	0.2	0.1	0.1
11	1.4	1.7	1.1	1.7	0.4	0.7	0.2	0.3
12	3.4	5.1	2.1	3.9	0.9	1.5	0.5	0.8
13	7.6	12.7	4.5	8.3	2.2	3.8	1.2	2.0
14	14.3	27.0	6.3	14.7	3.7	7.5	2.8	4.9
15	14.5	41.5	9.5	24.1	6.3	13.8	5.2	10.1
16	18.4	59.9	11.7	35.9	8.3	22.1	8.0	18.1
17	10.9	70.8	14.3	50.2	10.9	33.0	11.9	30.0
18	11.2	81.9	14.2	64.4	12.6	45.6	14.7	44.7
19	8.1	90.0	12.0	76.4	14.8	60.4	15.2	59.9
20	4.1	94.1	11.4	87.8	12.5	73.0	15.0	74.9
21	2.7	96.8	5.8	93.6	9.7	82.7	11.6	86.4
22	1.4	98.2	3.8	97.4	7.9	90.5	6.8	93.2
23	1.0	99.2	1.4	98.8	4.4	95.0	3.4	96.6
24	0.5	99.7	0.6	99.4	2.7	97.6	1.9	98.6
25	0.2	99.9	0.4	99.8	1.2	98.8	0.7	99.3
26	0.1	100.0	0.0	99.8	0.7	99.5	0.4	99.7
27	0.0	100.0	0.1	100.0	0.3	99.8	0.2	99.9
28	0.0	100.0	0.0	100.0	0.0	99.8	0.1	100.0
29	0.0	100.0	0.0	100.0	0.0	99.9	0.0	100.0
30	0.0	100.0	0.0	100.0	0.1	100.0	0.0	100.0
Mean	16.21		17.43		18.75		18.80	
SD	2.58		2.77		2.94		2.59	
Count	2631		13290		13182		12740	

† Base Exam

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

Score	October 1988 †		2006		2011		2016	
	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	0.1
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
9	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
10	0.4	0.5	0.1	0.1	0.0	0.1	0.0	0.1
11	1.7	2.1	0.5	0.6	0.1	0.2	0.1	0.2
12	5.2	7.3	1.3	1.9	0.5	0.7	0.4	0.6
13	11.3	18.7	3.1	5.0	1.8	2.5	1.1	1.7
14	16.0	34.7	5.7	10.7	3.7	6.2	2.9	4.7
15	16.9	51.5	9.2	19.9	6.9	13.1	5.3	10.0
16	16.6	68.2	13.3	33.1	11.0	24.1	9.2	19.1
17	12.8	81.0	16.6	49.8	14.6	38.7	13.0	32.1
18	9.7	90.6	15.7	65.4	16.7	55.4	15.3	47.4
19	5.0	95.7	12.6	78.0	15.3	70.7	15.6	63.1
20	2.3	97.9	9.3	87.3	12.4	83.2	13.4	76.5
21	1.4	99.4	5.8	93.1	7.7	90.9	10.1	86.5
22	0.4	99.8	3.5	96.6	4.6	95.5	6.2	92.8
23	0.2	99.9	1.9	98.5	2.5	98.0	3.7	96.5
24	0.1	100.0	0.9	99.4	1.2	99.2	2.0	98.5
25	0.0	100.0	0.4	99.8	0.5	99.7	1.0	99.5
26	0.0	100.0	0.1	99.9	0.2	99.9	0.4	99.9
27	0.0	100.0	0.1	100.0	0.1	100.0	0.1	100.0
28	0.0	100.0	0.0	100.0	0.0	100.0	0.0	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		17.61		18.22		18.70	
SD	2.24		2.56		2.47		2.58	
Count	2631		13290		13182		12740	

† Base Exam

**Table 10**  
**Dental Admission Test**  
**Standard Score Analysis**  
**2016**

N = 12,740		Number of Items	Mean	S.D.
Quantitative Reasoning		40	17.71	3.32
Reading Comprehension		50	20.10	2.76
Biology		40	18.53	2.91
General Chemistry		30	18.59	3.30
Organic Chemistry		30	18.59	3.87
Survey of the Natural Sciences		100	18.43	2.82
Perceptual Ability		90	18.80	2.59
Academic Average			18.70	2.58

**Table 11**  
**Percentage of Dental Schools with Significant ( $p \leq .05$ )**  
**Correlations Between DAT Scores, Predental GPAs,**  
**and First-Year Dental Grades**  
**School Year 2014-2015**

	BioMedical Science	Preclinical Operative Technique	First Year GPA
<b>Predental GPAs</b>			
Total	81%	57%	85%
Science	80%	64%	83%
<b>DAT Scores</b>			
Quantitative Reasoning	45%	28%	51%
Reading Comprehension	43%	35%	49%
Biology	77%	35%	72%
General Chemistry	68%	33%	64%
Organic Chemistry	70%	26%	68%
Survey of the Natural Sciences	83%	43%	85%
Perceptual Ability	36%	63%	49%
Academic Average	83%	54%	87%

**Table 12**  
**First-Year Class**  
**Median Correlation Coefficients (Pearson R)**  
**School Year 2014-2015**

	BioMedical Science	Preclinical Operative Technique	First Year GPA
<b>Predental GPAs</b>			
Total	0.34	0.26	0.35
Science	0.37	0.25	0.37
<b>DAT Scores</b>			
Quantitative Reasoning	0.20	0.17	0.22
Reading Comprehension	0.18	0.11	0.21
Biology	0.33	0.13	0.30
General Chemistry	0.27	0.15	0.28
Organic Chemistry	0.26	0.15	0.26
Survey of the Natural Sciences	0.35	0.18	0.32
Perceptual Ability	0.18	0.25	0.20
Academic Average	0.36	0.23	0.34
<b>Multiple R</b>			
DAT	0.46	0.40	0.46
DAT and GPAs	0.56	0.48	0.57

**Table 13a**  
**Dental Admission Test**  
**Repeated Exams Analysis**  
**2016**

Category	Count
Exams Initially Taken in 2016	8107
1st Time Repeat	3421
2nd Time Repeat	964
3rd Time Repeat	194
4th Time Repeat	42
5th Time Repeat	5
6th Time Repeat	4
7th Time Repeat	2
8th Time Repeat	1
9th Time Repeat	0
Exams Given in 2016	12740

**Table 13b**  
**Dental Admission Test**  
**Scores for First Time Test Takers and Repeaters**  
**2016**

Subject	First Time Test Takers		Repeaters	
	Mean	Std. Dev.	Mean	Std. Dev.
Quantitative Reasoning	18.20	3.49	16.87	2.80
Reading Comprehension	20.43	2.7	19.54	2.61
Biology	18.91	3.01	17.88	2.54
General Chemistry	19.09	3.46	17.74	2.76
Organic Chemistry	19.23	4.02	17.51	3.27
Survey of the Natural Sciences	18.90	2.94	17.63	2.33
Perceptual Ability	18.99	2.70	18.49	2.33
Academic Average	19.17	2.70	17.90	2.06



**Table 14**  
**Dental Admission Test**  
**Quantitative Reasoning by Gender**  
**2016**

Score	Females	Males	Total	Count
1	0.0%	0.0%	0.0%	3
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%	2
8	0.1%	0.0%	0.0%	5
9	0.3%	0.0%	0.1%	18
10	0.6%	0.2%	0.4%	52
11	1.4%	0.6%	1.1%	134
12	2.4%	1.1%	1.8%	234
13	5.0%	2.5%	3.8%	487
14	9.3%	5.2%	7.4%	943
15	11.5%	8.7%	10.2%	1298
16	14.1%	11.6%	13.0%	1643
17	12.2%	11.3%	11.8%	1490
18	13.6%	14.1%	13.8%	1749
19	10.0%	13.8%	11.8%	1492
20	5.7%	8.3%	6.9%	871
21	5.1%	7.7%	6.3%	799
22	3.3%	5.6%	4.3%	551
23	1.9%	3.2%	2.5%	316
24	1.0%	1.9%	1.4%	179
25	0.4%	0.9%	0.6%	81
26	0.6%	1.0%	0.8%	97
27	0.5%	0.7%	0.6%	73
28	0.0%	0.1%	0.0%	4
29	0.5%	0.7%	0.6%	72
30	0.4%	0.8%	0.6%	79
	54.5%	45.5%	100.0%	12673
Mean	17.18	18.35	17.71	
SD	3.24	3.29	3.32	
Count	6906	5767	12673	

\* Number of examinations given to examinees

**Table 15**  
**Dental Admission Test**  
**Reading Comprehension by Gender**  
**2016**

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%	1
9	0.0%	0.0%	0.0%	2
10	0.0%	0.0%	0.0%	3
11	0.1%	0.1%	0.1%	9
12	0.3%	0.2%	0.2%	31
13	0.4%	0.4%	0.4%	48
14	1.1%	1.0%	1.1%	137
15	2.6%	2.6%	2.6%	329
16	5.1%	4.4%	4.8%	609
17	8.3%	6.6%	7.6%	957
18	11.6%	10.1%	10.9%	1387
19	12.5%	11.6%	12.1%	1528
20	17.2%	17.2%	17.2%	2179
21	13.0%	13.3%	13.2%	1669
22	11.5%	12.6%	12.0%	1524
23	7.2%	9.4%	8.2%	1044
24	3.3%	4.0%	3.6%	456
25	2.8%	3.3%	3.0%	382
26	1.7%	1.8%	1.8%	225
27	0.7%	0.7%	0.7%	88
28	0.3%	0.3%	0.3%	35
29	0.1%	0.1%	0.1%	13
30	0.1%	0.2%	0.1%	15
	54.5%	45.5%	100.0%	12673
Mean	19.97	20.26	20.10	
SD	2.75	2.75	2.75	
Count	6906	5767	12673	

\* Number of examinations given to examinees

**Table 16**  
**Dental Admission Test**  
**Biology by Gender**  
**2016**

Score	Females	Males	Total	Count
1	0.0%	0.1%	0.0%	6
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%	0
8	0.0%	0.0%	0.0%	0
9	0.0%	0.1%	0.0%	3
10	0.1%	0.1%	0.1%	12
11	0.4%	0.2%	0.3%	43
12	1.1%	0.7%	0.9%	112
13	2.4%	1.2%	1.9%	237
14	4.1%	2.8%	3.5%	442
15	8.8%	5.5%	7.3%	923
16	10.2%	8.7%	9.5%	1207
17	13.8%	12.7%	13.3%	1688
18	14.7%	13.3%	14.1%	1784
19	13.2%	14.5%	13.8%	1754
20	12.1%	14.0%	13.0%	1645
21	6.8%	8.8%	7.7%	976
22	5.1%	7.0%	6.0%	757
23	3.1%	4.9%	4.0%	502
24	2.1%	2.8%	2.4%	308
25	0.4%	0.4%	0.4%	53
26	0.8%	1.6%	1.1%	145
27	0.0%	0.1%	0.1%	7
28	0.3%	0.3%	0.3%	38
29	0.0%	0.0%	0.0%	0
30	0.2%	0.2%	0.2%	30
	54.5%	45.5%	100.0%	12673
Mean	18.23	18.88	18.53	
SD	2.89	2.89	2.90	
Count	6906	5767	12673	

\* Number of examinations given to examinees

**Table 17**  
**Dental Admission Test**  
**General Chemistry by Gender**  
**2016**

Score	Females	Males	Total	Count
1	0.1%	0.0%	0.0%	5
2	0.0%	0.1%	0.0%	5
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%	0.1%	0.0%	6
9	0.1%	0.1%	0.1%	17
10	0.5%	0.2%	0.3%	44
11	0.6%	0.3%	0.4%	54
12	2.0%	0.8%	1.4%	183
13	3.2%	1.7%	2.5%	322
14	5.3%	3.1%	4.3%	546
15	8.4%	6.0%	7.3%	927
16	10.9%	8.7%	9.9%	1252
17	11.2%	9.7%	10.5%	1336
18	12.0%	11.2%	11.6%	1471
19	15.3%	15.7%	15.5%	1959
20	8.4%	10.1%	9.2%	1160
21	7.2%	10.0%	8.5%	1073
22	6.1%	8.2%	7.0%	892
23	4.3%	6.3%	5.2%	656
24	2.0%	3.2%	2.6%	327
25	0.4%	0.7%	0.6%	70
26	0.9%	2.0%	1.4%	175
27	0.6%	1.0%	0.8%	101
28	0.1%	0.1%	0.1%	15
29	0.1%	0.1%	0.1%	14
30	0.3%	0.7%	0.5%	62
	54.5%	45.5%	100.0%	12673
Mean	18.15	19.12	18.59	
SD	3.24	3.28	3.29	
Count	6906	5767	12673	

\* Number of examinations given to examinees

**Table 18**  
**Dental Admission Test**  
**Organic Chemistry by Gender**  
**2016**

Score	Females	Males	Total	Count
1	0.1%	0.1%	0.1%	11
2	0.0%	0.0%	0.0%	0
3	0.0%	0.0%	0.0%	1
4	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	0
6	0.0%	0.0%	0.0%	4
7	0.0%	0.0%	0.0%	2
8	0.1%	0.1%	0.1%	13
9	0.3%	0.1%	0.2%	30
10	0.7%	0.3%	0.6%	70
11	1.4%	0.7%	1.1%	139
12	3.7%	2.0%	3.0%	375
13	4.1%	2.5%	3.4%	433
14	5.8%	4.2%	5.1%	642
15	8.3%	6.6%	7.5%	950
16	10.1%	8.7%	9.5%	1199
17	9.0%	7.4%	8.3%	1049
18	11.4%	9.9%	10.7%	1356
19	10.9%	11.2%	11.0%	1396
20	10.9%	11.7%	11.3%	1428
21	7.2%	8.6%	7.8%	993
22	4.8%	6.9%	5.8%	729
23	3.7%	6.0%	4.8%	603
24	2.7%	4.3%	3.4%	436
25	1.4%	2.7%	2.0%	252
26	0.9%	1.6%	1.2%	157
27	1.2%	1.8%	1.4%	183
28	0.0%	0.0%	0.0%	0
29	0.5%	1.1%	0.7%	94
30	0.6%	1.5%	1.0%	128
	54.5%	45.5%	100.0%	12673
Mean	18.06	19.23	18.59	
SD	3.76	3.90	3.86	
Count	6906	5767	12673	

\* Number of examinations given to examinees

**Table 19**  
**Dental Admission Test**  
**Survey of the Natural Sciences by Gender**  
**2016**

Score	Females	Males	Total	Count
1	0.0%	0.1%	0.1%	7
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	0.3%	0.1%	0.2%	29
12	1.4%	0.6%	1.0%	129
13	2.7%	1.2%	2.0%	256
14	5.1%	2.9%	4.1%	522
15	8.3%	5.9%	7.2%	917
16	11.3%	8.7%	10.1%	1281
17	13.1%	11.3%	12.2%	1551
18	14.4%	13.5%	14.0%	1777
19	14.2%	14.7%	14.4%	1830
20	11.1%	13.8%	12.3%	1557
21	7.6%	10.4%	8.9%	1123
22	4.8%	7.8%	6.2%	785
23	2.6%	4.1%	3.3%	421
24	1.6%	2.5%	2.0%	258
25	0.6%	1.1%	0.8%	107
26	0.5%	0.9%	0.7%	86
27	0.1%	0.2%	0.1%	18
28	0.0%	0.1%	0.1%	8
29	0.0%	0.0%	0.0%	1
30	0.0%	0.1%	0.0%	5
	54.5%	45.5%	100.0%	12673
Mean	18.05	18.89	18.43	
SD	2.77	2.79	2.81	
Count	6906	5767	12673	

\* Number of examinations given to examinees

**Table 20**  
**Dental Admission Test**  
**Perceptual Ability by Gender**  
**2016**

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%	0.1%	8
11	0.2%	0.1%	0.2%	22
12	0.7%	0.3%	0.5%	67
13	1.6%	0.7%	1.2%	155
14	3.7%	1.8%	2.8%	360
15	6.2%	4.1%	5.2%	664
16	9.4%	6.4%	8.0%	1015
17	13.7%	9.9%	11.9%	1513
18	15.7%	13.5%	14.7%	1863
19	15.5%	14.7%	15.2%	1922
20	13.5%	16.7%	15.0%	1895
21	9.7%	13.8%	11.6%	1464
22	5.3%	8.6%	6.8%	867
23	2.3%	4.6%	3.4%	430
24	1.3%	2.7%	2.0%	248
25	0.5%	1.1%	0.7%	95
26	0.3%	0.4%	0.4%	47
27	0.1%	0.3%	0.2%	25
28	0.0%	0.1%	0.1%	7
29	0.0%	0.0%	0.0%	1
30	0.0%	0.0%	0.0%	2
	54.5%	45.5%	100.0%	12673
Mean	18.39	19.30	18.80	
SD	2.54	2.55	2.59	
Count	6906	5767	12673	

\* Number of examinations given to examinees

**Table 21**  
**Dental Admission Test**  
**Academic Average by Gender**  
**2016**

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%	2
6	0.0%	0.1%	0.0%	3
7	0.0%	0.0%	0.0%	1
8	0.0%	0.0%	0.0%	1
9	0.0%	0.0%	0.0%	1
10	0.1%	0.0%	0.0%	4
11	0.2%	0.1%	0.1%	15
12	0.5%	0.3%	0.4%	49
13	1.5%	0.7%	1.1%	143
14	3.9%	1.7%	2.9%	370
15	6.5%	3.8%	5.3%	668
16	10.8%	7.2%	9.2%	1165
17	14.1%	11.7%	13.0%	1648
18	16.2%	14.4%	15.3%	1944
19	15.2%	16.3%	15.7%	1986
20	12.5%	14.5%	13.4%	1697
21	8.4%	12.0%	10.0%	1272
22	5.0%	7.7%	6.2%	790
23	2.8%	4.9%	3.7%	474
24	1.2%	2.9%	2.0%	254
25	0.7%	1.2%	1.0%	121
26	0.3%	0.5%	0.4%	46
27	0.1%	0.1%	0.1%	13
28	0.1%	0.0%	0.0%	6
29	0.0%	0.0%	0.0%	0
30	0.0%	0.0%	0.0%	0
	54.5%	45.5%	100.0%	12673
Mean	18.32	19.17	18.71	
SD	2.54	2.53	2.57	
Count	6906	5767	12673	

\* Number of examinations given to examinees



**Table 22**  
**Dental Admission Test**  
**Quantitative Reasoning by Ethnicity**  
**2016**

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%	3
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%	0.1%	0.0%	0.0%	1
7	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	2
8	0.0%	0.0%	0.0%	0.2%	0.2%	0.0%	0.0%	5
9	0.0%	0.1%	0.0%	0.4%	0.2%	0.1%	0.1%	15
10	0.0%	0.2%	0.0%	1.8%	1.5%	0.1%	0.4%	47
11	1.3%	0.4%	0.0%	4.2%	2.2%	0.7%	1.0%	124
12	6.5%	0.8%	0.0%	6.6%	4.3%	1.0%	1.8%	214
13	6.5%	2.2%	4.1%	13.5%	6.5%	2.5%	3.7%	442
14	13.0%	4.9%	12.2%	14.1%	12.4%	6.6%	7.4%	882
15	13.0%	6.9%	18.4%	14.8%	12.8%	10.2%	10.0%	1195
16	13.0%	9.8%	14.3%	13.8%	14.7%	14.2%	13.0%	1560
17	6.5%	9.8%	14.3%	10.8%	10.0%	13.5%	11.9%	1422
18	13.0%	13.0%	20.4%	8.4%	12.5%	15.3%	13.9%	1661
19	10.4%	12.9%	6.1%	5.4%	8.7%	12.9%	11.9%	1422
20	3.9%	9.0%	0.0%	2.1%	4.3%	7.2%	7.0%	834
21	5.2%	8.8%	4.1%	1.2%	3.6%	6.4%	6.3%	760
22	2.6%	7.3%	2.0%	1.2%	2.6%	3.9%	4.4%	533
23	0.0%	4.2%	0.0%	0.3%	1.5%	2.2%	2.5%	303
24	2.6%	2.8%	2.0%	0.3%	0.7%	1.0%	1.4%	172
25	0.0%	1.2%	0.0%	0.1%	0.4%	0.5%	0.6%	77
26	0.0%	1.5%	0.0%	0.1%	0.2%	0.6%	0.8%	91
27	1.3%	1.2%	0.0%	0.1%	0.4%	0.4%	0.6%	72
28	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	4
29	0.0%	1.4%	2.0%	0.1%	0.2%	0.3%	0.6%	72
30	1.3%	1.5%	0.0%	0.0%	0.2%	0.3%	0.6%	73
	0.6%	27.6%	0.4%	7.4%	10.9%	53.1%	100.0%	11986
Mean	16.83	18.99	16.94	15.27	16.46	17.73	17.75	
SD	3.50	3.63	2.89	2.76	3.13	2.92	3.31	
Count	77	3308	49	891	1301	6360	11986	

\* Number of examinations given to examinees

**Table 23**  
**Dental Admission Test**  
**Reading Comprehension by Ethnicity**  
**2016**

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%	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%	1
9	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	2
10	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	2
11	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.1%	9
12	0.0%	0.2%	0.0%	0.8%	0.5%	0.1%	0.2%	29
13	0.0%	0.4%	0.0%	0.8%	0.7%	0.3%	0.4%	45
14	1.3%	1.1%	0.0%	2.9%	1.8%	0.6%	1.0%	125
15	1.3%	2.4%	2.0%	5.1%	3.2%	2.1%	2.5%	300
16	9.1%	4.6%	14.3%	9.5%	6.9%	3.6%	4.7%	566
17	11.7%	7.2%	6.1%	13.4%	9.0%	6.4%	7.4%	890
18	10.4%	10.8%	16.3%	14.1%	11.9%	10.2%	10.9%	1303
19	11.7%	12.5%	12.2%	13.6%	11.9%	11.3%	11.9%	1424
20	16.9%	18.3%	8.2%	16.3%	15.8%	17.2%	17.3%	2071
21	11.7%	13.1%	16.3%	10.5%	12.2%	14.1%	13.3%	1599
22	11.7%	11.8%	14.3%	5.8%	10.5%	13.3%	12.0%	1440
23	6.5%	7.6%	6.1%	3.0%	7.5%	9.7%	8.4%	1002
24	5.2%	3.4%	0.0%	1.9%	3.0%	4.2%	3.7%	442
25	1.3%	3.2%	4.1%	0.9%	2.6%	3.4%	3.1%	369
26	0.0%	1.9%	0.0%	0.7%	1.4%	2.1%	1.8%	220
27	0.0%	0.8%	0.0%	0.1%	0.3%	0.8%	0.7%	84
28	0.0%	0.3%	0.0%	0.2%	0.3%	0.3%	0.3%	33
29	0.0%	0.2%	0.0%	0.0%	0.2%	0.0%	0.1%	13
30	1.3%	0.2%	0.0%	0.1%	0.0%	0.1%	0.1%	15
	0.6%	27.6%	0.4%	7.4%	10.9%	53.1%	100.0%	11986
Mean	19.77	20.15	19.53	18.74	19.68	20.42	20.13	
SD	2.74	2.75	2.52	2.64	2.84	2.68	2.75	
Count	77	3308	49	891	1301	6360	11986	

\* Number of examinations given to examinees

**Table 24**  
**Dental Admission Test**  
**Biology by Ethnicity**  
**2016**

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	6
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%	0.0%	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%	3
10	0.0%	0.1%	0.0%	0.4%	0.2%	0.0%	0.1%	11
11	0.0%	0.3%	4.1%	1.2%	0.4%	0.2%	0.3%	41
12	1.3%	0.6%	0.0%	3.8%	1.2%	0.5%	0.9%	104
13	2.6%	1.4%	8.2%	4.5%	2.8%	1.4%	1.8%	218
14	9.1%	2.5%	2.0%	7.1%	4.8%	3.1%	3.5%	416
15	14.3%	5.3%	8.2%	13.0%	9.0%	6.9%	7.2%	865
16	18.2%	7.3%	8.2%	14.0%	10.0%	9.9%	9.5%	1143
17	9.1%	12.4%	18.4%	17.4%	13.4%	13.5%	13.4%	1611
18	9.1%	13.0%	8.2%	12.8%	13.2%	15.2%	14.1%	1692
19	18.2%	13.7%	14.3%	8.9%	13.2%	14.7%	13.9%	1661
20	9.1%	15.8%	10.2%	8.0%	11.2%	12.8%	13.0%	1563
21	2.6%	8.7%	6.1%	4.0%	7.5%	7.8%	7.7%	924
22	1.3%	7.2%	2.0%	2.8%	5.1%	5.9%	5.9%	707
23	1.3%	5.2%	2.0%	1.0%	3.8%	3.9%	4.0%	479
24	3.9%	3.4%	8.2%	0.7%	2.4%	2.1%	2.4%	293
25	0.0%	0.5%	0.0%	0.1%	0.2%	0.4%	0.4%	43
26	0.0%	1.7%	0.0%	0.0%	0.7%	1.1%	1.1%	136
27	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.1%	7
28	0.0%	0.3%	0.0%	0.0%	0.5%	0.3%	0.3%	34
29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
30	0.0%	0.4%	0.0%	0.0%	0.5%	0.1%	0.2%	28
	0.6%	27.6%	0.4%	7.4%	10.9%	53.1%	100.0%	11986
Mean	17.34	19.06	17.84	16.85	18.24	18.56	18.52	
SD	2.65	2.95	3.27	2.70	3.01	2.76	2.89	
Count	77	3308	49	891	1301	6360	11986	

\* Number of examinations given to examinees

**Table 25**  
**Dental Admission Test**  
**General Chemistry by Ethnicity**  
**2016**

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%	5
2	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	4
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%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	5
9	0.0%	0.1%	0.0%	0.3%	0.1%	0.1%	0.1%	15
10	0.0%	0.1%	0.0%	1.5%	0.5%	0.2%	0.3%	38
11	1.3%	0.3%	4.1%	0.8%	1.1%	0.3%	0.4%	51
12	1.3%	0.7%	2.0%	4.8%	2.5%	1.1%	1.4%	168
13	5.2%	1.1%	6.1%	7.2%	3.6%	2.2%	2.5%	294
14	9.1%	2.8%	6.1%	9.3%	6.5%	3.8%	4.3%	513
15	11.7%	4.4%	6.1%	13.2%	9.8%	7.4%	7.3%	874
16	24.7%	7.6%	14.3%	12.5%	10.9%	10.3%	9.9%	1184
17	10.4%	8.0%	4.1%	11.6%	11.5%	11.7%	10.6%	1275
18	13.0%	10.5%	12.2%	11.2%	10.5%	12.6%	11.7%	1398
19	3.9%	15.1%	18.4%	12.3%	14.8%	16.4%	15.5%	1860
20	3.9%	11.3%	10.2%	5.9%	8.0%	8.9%	9.2%	1108
21	3.9%	10.2%	8.2%	4.3%	7.2%	8.2%	8.4%	1002
22	6.5%	9.3%	2.0%	2.1%	5.5%	6.8%	7.0%	837
23	1.3%	8.3%	2.0%	1.0%	3.8%	4.7%	5.2%	629
24	3.9%	3.8%	2.0%	0.7%	1.8%	2.4%	2.6%	312
25	0.0%	1.0%	0.0%	0.0%	0.0%	0.5%	0.5%	63
26	0.0%	2.3%	0.0%	0.3%	0.8%	1.2%	1.4%	168
27	0.0%	1.6%	2.0%	0.2%	0.6%	0.6%	0.8%	98
28	0.0%	0.2%	0.0%	0.0%	0.1%	0.1%	0.1%	13
29	0.0%	0.2%	0.0%	0.0%	0.2%	0.0%	0.1%	11
30	0.0%	1.0%	0.0%	0.1%	0.2%	0.4%	0.5%	60
	0.6%	27.6%	0.4%	7.4%	10.9%	53.1%	100.0%	11986
Mean	17.05	19.62	17.65	16.56	17.87	18.54	18.61	
SD	2.92	3.35	3.33	3.04	3.22	3.10	3.28	
Count	77	3308	49	891	1301	6360	11986	

\* Number of examinations given to examinees

**Table 26**  
**Dental Admission Test**  
**Organic Chemistry by Ethnicity**  
**2016**

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	10
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	1.3%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	4
7	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	2
8	0.0%	0.0%	0.0%	0.4%	0.3%	0.0%	0.1%	12
9	0.0%	0.1%	0.0%	1.3%	0.4%	0.1%	0.2%	26
10	0.0%	0.4%	2.0%	1.5%	1.0%	0.4%	0.5%	62
11	3.9%	0.6%	0.0%	3.8%	1.6%	0.8%	1.1%	133
12	5.2%	1.6%	6.1%	7.9%	4.2%	2.6%	2.9%	349
13	6.5%	2.5%	12.2%	7.3%	4.3%	3.0%	3.4%	407
14	7.8%	3.4%	2.0%	9.8%	7.0%	4.8%	5.0%	603
15	18.2%	5.4%	8.2%	12.0%	7.4%	7.8%	7.5%	899
16	9.1%	7.7%	8.2%	12.5%	10.1%	9.8%	9.4%	1130
17	10.4%	6.8%	8.2%	9.3%	9.7%	8.5%	8.2%	986
18	7.8%	10.3%	10.2%	8.5%	10.8%	11.5%	10.8%	1298
19	9.1%	10.9%	6.1%	8.4%	10.5%	11.8%	11.1%	1334
20	6.5%	12.3%	6.1%	5.7%	10.2%	11.9%	11.3%	1357
21	1.3%	9.6%	12.2%	4.5%	6.6%	7.8%	7.9%	944
22	3.9%	7.6%	4.1%	3.0%	5.5%	5.3%	5.8%	690
23	2.6%	6.0%	4.1%	1.6%	3.5%	4.8%	4.7%	567
24	1.3%	4.9%	6.1%	0.4%	2.5%	3.3%	3.4%	411
25	1.3%	2.9%	0.0%	0.4%	1.2%	1.9%	2.0%	235
26	1.3%	2.0%	0.0%	0.6%	0.8%	1.0%	1.2%	145
27	0.0%	2.1%	4.1%	0.6%	1.0%	1.4%	1.5%	177
28	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
29	1.3%	1.0%	0.0%	0.1%	0.4%	0.7%	0.7%	86
30	1.3%	1.6%	0.0%	0.1%	0.8%	0.8%	1.0%	119
	0.6%	27.6%	0.4%	7.4%	10.9%	53.1%	100.0%	11986
Mean	16.91	19.55	17.94	16.20	17.89	18.62	18.60	
SD	4.09	3.87	4.12	3.55	3.82	3.69	3.84	
Count	77	3308	49	891	1301	6360	11986	

\* Number of examinations given to examinees

**Table 27**  
**Dental Admission Test**  
**Survey of the Natural Sciences by Ethnicity**  
**2016**

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%	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%	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%	1
10	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	3
11	0.0%	0.1%	2.0%	1.3%	0.4%	0.1%	0.2%	27
12	1.3%	0.6%	2.0%	3.7%	1.5%	0.7%	1.0%	119
13	7.8%	1.1%	8.2%	7.5%	2.8%	1.4%	2.0%	236
14	5.2%	2.9%	2.0%	9.0%	6.9%	3.3%	4.0%	482
15	13.0%	5.0%	10.2%	13.4%	9.4%	6.9%	7.2%	863
16	16.9%	6.9%	8.2%	14.6%	10.1%	11.2%	10.2%	1219
17	22.1%	10.0%	10.2%	14.8%	13.1%	12.8%	12.2%	1468
18	11.7%	12.4%	18.4%	12.7%	15.1%	15.0%	14.1%	1694
19	6.5%	15.2%	10.2%	9.5%	12.3%	15.5%	14.6%	1745
20	3.9%	14.5%	12.2%	7.2%	10.4%	12.3%	12.3%	1471
21	2.6%	11.5%	6.1%	3.6%	7.4%	8.4%	8.7%	1048
22	3.9%	8.7%	4.1%	0.8%	5.1%	6.0%	6.2%	749
23	2.6%	5.2%	2.0%	1.1%	2.8%	2.9%	3.4%	405
24	0.0%	2.8%	2.0%	0.4%	1.8%	1.8%	2.0%	239
25	1.3%	1.5%	2.0%	0.0%	0.4%	0.7%	0.8%	100
26	1.3%	1.1%	0.0%	0.0%	0.4%	0.6%	0.7%	82
27	0.0%	0.2%	0.0%	0.0%	0.1%	0.1%	0.1%	16
28	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.1%	7
29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1
30	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	4
	0.6%	27.6%	0.4%	7.4%	10.9%	53.1%	100.0%	11986
Mean	17.08	19.20	17.73	16.53	17.92	18.44	18.44	
SD	2.79	2.82	3.10	2.61	2.79	2.65	2.80	
Count	77	3308	49	891	1301	6360	11986	

\* Number of examinations given to examinees

**Table 28**  
**Dental Admission Test**  
**Perceptual Ability by Ethnicity**  
**2016**

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.0%	0.0%	0.0%	0.1%	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%	0.4%	0.1%	0.0%	0.1%	7
11	1.3%	0.1%	2.0%	1.0%	0.3%	0.1%	0.2%	21
12	0.0%	0.5%	2.0%	2.8%	0.6%	0.2%	0.5%	61
13	0.0%	0.7%	0.0%	5.5%	1.6%	0.9%	1.2%	149
14	9.1%	2.1%	4.1%	9.1%	4.3%	1.8%	2.8%	330
15	6.5%	4.3%	8.2%	12.3%	7.5%	4.4%	5.3%	637
16	10.4%	6.3%	6.1%	15.4%	9.5%	7.2%	7.8%	938
17	9.1%	9.9%	4.1%	16.4%	13.5%	11.9%	11.8%	1416
18	13.0%	12.0%	16.3%	15.7%	14.7%	15.9%	14.6%	1754
19	23.4%	15.4%	18.4%	9.1%	16.1%	15.8%	15.3%	1836
20	11.7%	15.9%	18.4%	7.0%	12.8%	16.0%	14.9%	1786
21	6.5%	14.1%	8.2%	2.9%	9.4%	12.2%	11.7%	1400
22	2.6%	9.1%	8.2%	1.6%	4.9%	6.9%	6.9%	827
23	2.6%	4.7%	4.1%	0.4%	2.7%	3.4%	3.5%	416
24	2.6%	2.9%	0.0%	0.2%	1.2%	1.9%	2.0%	236
25	1.3%	1.1%	0.0%	0.0%	0.5%	0.7%	0.8%	92
26	0.0%	0.6%	0.0%	0.0%	0.1%	0.4%	0.4%	45
27	0.0%	0.3%	0.0%	0.0%	0.0%	0.2%	0.2%	23
28	0.0%	0.1%	0.0%	0.0%	0.2%	0.0%	0.1%	7
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%	1
	0.6%	27.6%	0.4%	7.4%	10.9%	53.1%	100.0%	11986
Mean	18.19	19.34	18.49	16.65	18.28	18.98	18.82	
SD	2.68	2.60	2.70	2.42	2.59	2.42	2.59	
Count	77	3308	49	891	1301	6360	11986	

\* Number of examinations given to examinees

**Table 29**  
**Dental Admission Test**  
**Academic Average by Ethnicity**  
**2016**

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%	2
6	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	3
7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1
8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1
9	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1
10	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	2
11	0.0%	0.1%	0.0%	0.7%	0.2%	0.0%	0.1%	14
12	0.0%	0.2%	0.0%	2.0%	0.9%	0.2%	0.4%	45
13	1.3%	0.5%	2.0%	5.3%	2.1%	0.6%	1.1%	133
14	6.5%	1.6%	6.1%	10.0%	5.3%	1.8%	2.8%	333
15	15.6%	3.2%	12.2%	12.5%	9.1%	4.2%	5.2%	618
16	11.7%	7.0%	6.1%	17.2%	10.3%	9.0%	9.2%	1104
17	18.2%	9.6%	12.2%	15.2%	14.3%	14.0%	12.9%	1548
18	19.5%	13.0%	22.4%	14.9%	14.9%	16.8%	15.5%	1853
19	6.5%	15.5%	12.2%	10.1%	14.4%	17.2%	15.8%	1892
20	5.2%	15.7%	12.2%	7.6%	11.6%	13.5%	13.4%	1604
21	7.8%	12.4%	4.1%	2.2%	8.5%	10.3%	10.0%	1204
22	3.9%	9.1%	4.1%	1.1%	4.2%	6.1%	6.4%	762
23	1.3%	5.9%	4.1%	0.8%	2.2%	3.4%	3.7%	449
24	1.3%	3.5%	2.0%	0.1%	1.0%	1.8%	2.0%	244
25	1.3%	1.6%	0.0%	0.2%	0.4%	0.8%	0.9%	113
26	0.0%	0.7%	0.0%	0.0%	0.5%	0.2%	0.4%	43
27	0.0%	0.2%	0.0%	0.0%	0.0%	0.1%	0.1%	12
28	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	5
29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
	0.6%	27.6%	0.4%	7.4%	10.9%	53.1%	100.0%	11986
Mean	17.58	19.47	18.02	16.71	18.02	18.78	18.72	
SD	2.52	2.60	2.55	2.36	2.59	2.36	2.56	
Count	77	3308	49	891	1301	6360	11986	

\* Number of examinations given to examinees



**Table 30**  
**Dental Admission Test**  
**DAT scores by Examinees of Hispanic Origin**  
**2016**

Score	QRT	RCT	BIO	GCH	OCH	SNS	PAT	AA
1	0.0%	0.0%	0.0%	0.0%	0.3%	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%	0.0%	0.0%	0.0%	0.0%
9	0.9%	0.0%	0.0%	0.3%	1.3%	0.0%	0.0%	0.0%
10	1.9%	0.3%	0.3%	1.6%	1.6%	0.3%	0.0%	0.6%
11	2.2%	0.0%	0.3%	0.6%	2.2%	0.6%	0.3%	0.3%
12	4.4%	0.3%	2.2%	3.1%	4.7%	1.9%	1.9%	0.3%
13	10.7%	0.6%	3.4%	6.6%	5.0%	4.4%	1.3%	2.5%
14	12.5%	2.2%	4.7%	7.2%	6.6%	10.3%	6.0%	9.4%
15	16.9%	5.6%	13.5%	9.4%	8.5%	9.1%	5.3%	10.0%
16	14.4%	9.4%	9.7%	12.2%	11.0%	9.1%	15.4%	10.3%
17	9.4%	11.6%	12.2%	9.1%	8.2%	12.9%	16.3%	16.6%
18	12.2%	11.6%	13.5%	9.1%	11.3%	14.4%	16.0%	14.4%
19	5.0%	17.2%	11.9%	14.4%	9.4%	11.6%	11.0%	14.4%
20	4.7%	15.7%	11.3%	7.2%	9.1%	9.1%	14.1%	9.7%
21	1.9%	9.1%	6.0%	8.2%	6.0%	8.8%	6.9%	7.2%
22	1.9%	8.8%	4.1%	6.6%	5.0%	3.1%	2.2%	1.6%
23	0.6%	4.4%	2.8%	1.9%	4.4%	1.9%	1.3%	1.9%
24	0.0%	1.3%	2.2%	0.9%	2.5%	1.6%	1.6%	0.0%
25	0.0%	1.6%	0.6%	0.3%	1.3%	0.6%	0.6%	0.6%
26	0.0%	0.0%	0.6%	0.6%	0.3%	0.3%	0.0%	0.0%
27	0.0%	0.3%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%
28	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
29	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%
30	0.3%	0.0%	0.3%	0.0%	0.6%	0.0%	0.0%	0.0%
Mean	15.77	18.91	17.86	17.32	17.51	17.55	17.82	17.49
SD	2.80	2.57	3.04	3.34	3.95	2.90	2.48	2.50
Count	319	319	319	319	319	319	319	319

\* Number of examinations given to examinees

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

- |  |  |
|--|--|
| <p><b>I. Cell and Molecular Biology</b></p> <ul style="list-style-type: none"> <li>A. Origin of Life</li> <li>B. Cell metabolism (including photosynthesis/ enzymology)</li> <li>C. Cellular Processes</li> <li>D. Thermodynamics</li> <li>E. Organelle structure and function</li> <li>F. Mitosis / Meiosis</li> <li>G. Cell structure</li> <li>H. Experimental cell biology</li> </ul> | <p><b>IV. Developmental Biology</b></p> <ul style="list-style-type: none"> <li>A. Fertilization</li> <li>B. Descriptive embryology</li> <li>C. Developmental mechanisms</li> <li>D. Experimental embryology</li> </ul>   |
| <p><b>II. Diversity of Life: Biological Organization and Relationship of Major Taxa (Six-Kingdom Three-Domain System)</b></p> <ul style="list-style-type: none"> <li>A. Plantae</li> <li>B. Animalia</li> <li>C. Protista</li> <li>D. Fungi</li> <li>E. Eubacteria (Bacteria)</li> <li>F. Archae</li> <li>G. Etc.</li> </ul>   | <p><b>V. Genetics</b></p> <ul style="list-style-type: none"> <li>A. Molecular genetics</li> <li>B. Human genetics</li> <li>C. Classical genetics</li> <li>D. Chromosomal genetics</li> <li>E. Genetic technology</li> </ul>  |
| <p><b>III. Structure and Function of Systems</b></p> <ul style="list-style-type: none"> <li>A. Integumentary</li> <li>B. Skeletal</li> <li>C. Muscular</li> <li>D. Circulatory</li> <li>E. Immunological</li> <li>F. Digestive</li> <li>G. Respiratory</li> <li>H. Urinary</li> <li>I. Nervous/senses</li> <li>J. Endocrine</li> <li>K. Reproductive</li> <li>L. Etc.</li> </ul>         | <p><b>VI. Evolution, Ecology, and Behavior</b></p> <ul style="list-style-type: none"> <li>A. Natural Selection</li> <li>B. Population genetics/speciation</li> <li>C. Cladistics</li> <li>D. Population and community ecology</li> <li>E. Ecosystems</li> <li>F. Animal behavior (including social)</li> </ul> |

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

**I. 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

**II. 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

**III. Liquids and Solids**

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

**IV. Solutions**

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

**V. Acids and Bases**

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

**VI. Chemical Equilibria**

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

**VII. Thermodynamics and Thermochemistry**

- A. Laws of thermodynamics

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

**VIII. Chemical Kinetics**

- A. Rate Laws
- B. Activation Energy
- C. Half-life

**IX. Oxidation-Reduction Reactions**

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

**X. 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

**XI. Periodic Properties**

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

**XII. Nuclear Reactions**

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

**XIII. Laboratory**

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

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

- |   |   |
|---|---|
| <p><b>I. Mechanisms: Energetics and Structure</b></p> <ul style="list-style-type: none"> <li>A. Elimination</li> <li>B. Addition</li> <li>C. Free radical</li> <li>D. Substitution mechanisms</li> <li>E. Other</li> </ul> <p><b>II. Chemical and Physical Properties of Molecules</b></p> <ul style="list-style-type: none"> <li>A. Spectroscopy               <ul style="list-style-type: none"> <li>1. <math>^1\text{H}</math> NMR</li> <li>2. <math>^{13}\text{C}</math> NMR</li> <li>3. Infrared</li> <li>4. Multi-spectra</li> </ul> </li> <li>B. Structure               <ul style="list-style-type: none"> <li>1. Polarity</li> <li>2. Intermolecular forces (solubility, melting/boiling point, etc.)</li> </ul> </li> <li>C. Laboratory theory and techniques (i.e. TLC, separations, etc.)</li> </ul> <p><b>III. Stereochemistry (Structure Evaluation)</b></p> <ul style="list-style-type: none"> <li>A. Chirality</li> <li>B. Isomer relationships</li> <li>C. Conformations</li> </ul> <p><b>IV. Nomenclature (2)</b></p> <ul style="list-style-type: none"> <li>A. IUPAC rules</li> <li>B. Functional groups in molecules</li> </ul> | <p><b>V. Individual Reactions of the Major Functional Groups and Combinations of Reactions to Synthesize Compounds</b></p> <ul style="list-style-type: none"> <li>A. Alkene/Alkyne               <ul style="list-style-type: none"> <li>1. General</li> <li>2. One-step</li> <li>3. Multi-step</li> </ul> </li> <li>B. Aromatic               <ul style="list-style-type: none"> <li>1. General</li> <li>2. One-step</li> <li>3. Multi-step</li> </ul> </li> <li>C. Substitution/Elimination               <ul style="list-style-type: none"> <li>1. General</li> <li>2. One-step</li> <li>3. Multi-step</li> </ul> </li> <li>D. Aldehyde/Ketone               <ul style="list-style-type: none"> <li>1. General</li> <li>2. One-step</li> <li>3. Multi-step</li> </ul> </li> <li>E. Carboxylic acids and derivatives               <ul style="list-style-type: none"> <li>1. General</li> <li>2. One-step</li> <li>3. Multi-step</li> </ul> </li> <li>F. Other               <ul style="list-style-type: none"> <li>1. General</li> <li>2. One-step</li> <li>3. Multi-step</li> </ul> </li> </ul> <p><b>VI. Acid-Base Chemistry</b></p> <ul style="list-style-type: none"> <li>A. Ranking Acidity/ basicity               <ul style="list-style-type: none"> <li>1. Structure analysis</li> <li>2. pH/pK<sub>a</sub> data analysis</li> </ul> </li> <li>B. Prediction of products and equilibria</li> </ul> <p><b>VII. Aromatics and Bonding</b></p> <ul style="list-style-type: none"> <li>A. Concept of aromaticity</li> <li>B. Resonance</li> <li>C. Atomic/molecular orbitals</li> <li>D. Hybridization</li> <li>E. Bond angles/lengths</li> </ul> |
|---|---|

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

**(Administration between January 1, 2016 and May 30, 2016.)**

- A. Algebra (9)**
  - 1. Equations and expressions
  - 2. Inequalities
  - 3. Exponential notation
  - 4. Absolute value
  - 5. Ratios and proportions
  - 6. Graphical analysis
- B. Numerical calculations (6)**
- C. Conversions (3)**
- D. Probability and statistics (4)**
- E. Geometry (4)**
- F. Trigonometry (4)**
- II. Applied Mathematics (Word) Problems (10)**

**(Administration between June 1, 2016 and December 31, 2016)**

- I. Mathematics Problems**
  - A. Algebra (9)**
    - 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 (7)**
  - C. Quantitative Comparison (7)**
  - D. Probability and Statistics (7)**
- II. Applied Mathematics (Word) Problems (10)**

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

December 2017