ADA American Dental Association®

America's leading advocate for oral health

Dental Admission Test (DAT) 2022 User's Manual

211 East Chicago Avenue
Chicago, Illinois 60611-2637
312.440.2500 | ADA.org

American
Dental
Association

Department of
Testing Services

Dental
Admission
Testing
Program

Report 3
2023

Dental Admission Test (DAT)
User's Manual
2022

DENTAL ADMISSION TESTING PROGRAM USER'S MANUAL

2022

TABLE OF CONTENTS

	Page
History of the Dental Admission Testing Program	1
Content of the Dental Admission Test	2
Test Construction	3
Scoring the Dental Admission Test	4
Sources of Validity Evidence for the Dental Admission Testing Program	4
Other Information Available Regarding the Dental Admission Test	5
References	6
Tables	8
Figures	36

LIST OF TABLES

Table	Description	Page
1	Quantitative Reasoning Test: Cumulative Percentile Distribution	8
2	Reading Comprehension Test: Cumulative Percentile Distribution	9
3	Biology Test: Cumulative Percentile Distribution	10
4	General Chemistry Test: Cumulative Percentile Distribution	11
5	Organic Chemistry Test: Cumulative Percentile Distribution	12
6	Survey of the Natural Sciences: Cumulative Percentile Distribution	13
7	Perceptual Ability Test: Cumulative Percentile Distribution	14
8	Academic Average: Cumulative Percentile Distribution	15
9	Standard Score Analysis, Year 2022	16
10	2018/20 First Year Corrected Correlation Coefficients	17
11	Test Scores for First Time Test Takers and Repeaters, Year 2022	18
12	Quantitative Reasoning Test by Gender, Year 2022	19
13	Reading Comprehension Test by Gender, Year 2022	20
14	Biology Test by Gender, Year 2022	21
15	General Chemistry Test By Gender, Year 2022	22
16	Organic Chemistry Test By Gender, Year 2022	23
17	Survey of the Natural Sciences by Gender, Year 2022	24
18	Perceptual Ability Test by Gender, Year 2022	25
19	Academic Average by Gender, Year 2022	26
20	Quantitative Reasoning Test by Ethnicity, Year 2022	27
21	Reading Comprehension Test by Ethnicity, Year 2022	28
22	Biology Test by Ethnicity, Year 2022	29
23	General Chemistry Test By Ethnicity, Year 2022	30

Table	Description	Page
24	Organic Chemistry Test By Ethnicity, Year 2022	31
25	Survey of the Natural Sciences by Ethnicity, Year 2022	32
26	Perceptual Ability Test by Ethnicity, Year 2022	33
27	Academic Average by Ethnicity, Year 2022	34
28	DAT scores by Examinees of Hispanic Origin, Year 2022	35

LIST OF FIGURES

Figure	Description	Page
1	Survey of the Natural Sciences: Biology Content Specifications	36
2	Survey of the Natural Sciences: General Chemistry Content Specifications	37
3	Survey of the Natural Sciences: Organic Chemistry Content Specifications	38
4	Quantitative Reasoning Content Specifications	39

INTRODUCTION

History of the Dental Admission Test Program

The development of the Dental Admission Test Program began in 1945. At that time, there were 39 accredited dental schools in the United States, and 12,000 students were enrolled. 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 at the prospect of making comparisons among 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 information 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 consistent 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. Validation studies (Graham, 1972, 1974) comparing Chalk Carving Test scores and paper and pencil Perceptual-motor Ability Test scores with dental school performance in technique courses indicated that the paper and pencil 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) non-manual-performance-based, 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 within 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, 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. 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.

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 visually perceive small differences 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 1,100-1,500 words each. The topics selected for these passages cover aspects of basic science that are taught in an undergraduate curriculum. Each passage is followed by 14 or 20 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, algebra, data analysis, interpretation and sufficiency, and probability and statistics required of a first-year college student in preparation for college science courses is

assumed by the test.

A composite score—the Academic Average—is also included in the score report. The Academic Average 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 DAT content development occurs continuously. Test items for the Survey of the Natural Sciences and Quantitative Reasoning Test are developed by DAT Test Construction Team (TCT) members who are faculty members from accredited colleges and universities. Newly developed items are reviewed by TCTs 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 different editions of the examination.

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 1-8). 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 2021 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 refers to the extent to which test scores are free from random sources of measurement error, providing consistent, stable, and precise measurement (e.g., yielding the same results from one test administration to another). Reliability can be assessed using a variety of methods, each of which addresses different sources of error. For purposes of the DAT Program, a measure of internal consistency reliability, KR_{20}, is used for the discipline-based scores, and a composite reliability estimate is calculated for the Academic Average. Reliability estimates for the DAT score for 2022 are provided below.

DAT Score Reliability: 2022 Administrations

Score	Reliability
Academic Average	.95 to .96
Survey of the Natural Sciences	.93 to .95
Perceptual Ability Test	.90 to .92
Reading Comprehension Test	.73 to .83
Quantitative Reasoning Test	.81 to .88

Note. The table provides the range of reliability coefficients calculated across examination forms.

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 predental courses. For the Dental Admission Test battery, content validity evidence is assessed primarily by the evaluation and judgment of TCT members, who are subject matter experts. TCT 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).

The Department of Testing Services uses meta-analytic techniques to study the relationship between DAT scores and dental school grades. In contrast to the early days of the DAT Program, there are currently far more individuals that complete the DAT, and far more schools with dental education programs. In the 2021-2022 academic year, there were 68 fully operational, accredited dental schools in the United States. Among these, 66 dental schools had 26,228 students enrolled. Table 10 presents the corrected correlation coefficients generated from the most recent meta-analysis involving a sampling of these schools. The correlations indicate that DAT scores are positively correlated with performance in the first year of dental school.

Other Information Available Regarding the Dental Admission Test

A. *Dental Admission Test (DAT) 2022 Program Guide.* 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 2018-2020 Data*. 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 2022*. 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.

D. *The DAT and ADAT Programs: Overview of Policies and Procedures Supporting and Promoting Fairness.* This report describes the policies and procedures undertaken in support of the fairness of the Dental Admission Test (DAT) and the Advanced Dental Admission Test (ADAT).

References

ADA Health Policy Institute, (2022). 2021-2022 Survey of Dental Education – Report 2: Tuition, Admission, and Attrition. American Dental Association, Chicago, IL.

ADA Health Policy Institute, (2022). 2021-2022 Survey of Dental Education – Report 1: Academic Programs, Enrollment, and Graduates. American Dental Association, Chicago, IL.

Committee on Educational Measurement and Testing (2023). *Dental Admission Test (DAT) Examinee Information 2022* Chicago, IL: American Dental Association.

Committee on Educational Measurement and Testing (2022). *Dental Admission Test (DAT) 2022 Program Guide*. Chicago, IL: American Dental Association.

Committee on Educational Measurement and Testing (2022). *Dental Admission Test Validity Study 2018-2020 Data*. Chicago, IL: American Dental Association.

Graham, J.W. (1972). Substitution of Perceptual-Motor Ability Test for Chalk Carving in Dental Admission Testing Program. Journal of Dental Education, 36, 9-14.

Graham, J.W. (1974). Factor Analysis of the Perceptual-Motor Ability Test. Journal of Dental Education, 38, 16-19.

Kramer, G.A. (1986). Predictive Validity of the Dental Admission Test. Journal of Dental Education, 50, 526-531.

Kramer, G.A., & Kubiak, A.T. (1990, April). The Perceptual Ability Test: Construct and Predictive Validities. Paper presented at the meeting of the American Educational Research Association, Boston.

Kramer, G.A., Kubiak, A.T., & Smith, R.M. (1989). Construct and Predictive Validities of the Perceptual Ability Test. Journal of Dental Education, 53, 119-125.

Kramer, G.A., & Smith, R.M. (2001). An Investigation of Gender Differences in the Components Influencing the Difficulty of Spatial Ability Items. Journal of Applied Measurement, 2 (1), 65-77.

Larkin, K.C. (1992). Technical Report 1992-1: Equating of the Dental Admission Test and Admission to Dental School. Chicago: American Dental Association.

Messick, S. (1989). Validity. In Linn (Eds), Educational Measurement (pp.13-103). Ace/Macmillan.

Rasch, G. (1960, 1980). Probabilistic Models for Some Intelligence and Attainment Tests. Chicago: University of Chicago Press.

Smith, R.M., Kramer, G.A., & Kubiak, A.T. (1988). Revision of Dental Admission Test Standard Score Scale. Journal of Dental Education, 52, 548-553.

Smith, R.M., Kramer, G.A., & Kubiak, A.T. (1989). Gender Differences in Item Performance and Predictive Validity on the Dental Admission Quantitative Reasoning Test. Journal of Dental Education, 53, 708-711.

Smith, R.M., Kramer, G.A., & Kubiak, A.T. (1990). Incidence of Measurement Disturbances in the Dental Admission Quantitative Reasoning Test. Journal of Dental Education, 54, 314-318.

Wright, B.D. (1977). Solving Measurement Problems with the Rasch Model. Journal of Educational Measurement, 14, 97-116.

Wright, B.D. & Stone, M.H. (1979). Best Test Design. Chicago: MESA Press.

Yang, C-L., O'Neill, T., & Kramer, G.A., (2002). Examining Item Difficulty and Response Time on Perceptual Ability Test Items. Journal of Applied Measurement, 3(3), 282-299.

Table 1
Dental Admission Test
Quantitative Reasoning
Cumulative Percentile Distribution

	October 1988 †		2012		2017		2022	
Score	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	0.1	0.0	0.1	0.0	0.0	0.0	0.1
8	0.1	0.2	0.0	0.1	0.0	0.0	0.1	0.1
9	0.1	0.3	0.1	0.2	0.1	0.2	0.2	0.3
10	0.6	0.8	0.3	0.5	0.4	0.5	0.2	0.5
11	1.7	2.5	0.8	1.3	0.7	1.2	1.1	1.6
12	5.2	7.7	2.1	3.4	1.9	3.2	2.2	3.8
13	9.8	17.5	3.9	7.3	3.9	7.1	4.0	7.8
14	12.6	30.2	7.9	15.2	6.1	13.2	6.2	14.0
15	16.1	46.3	10.0	25.2	9.6	22.8	8.5	22.4
16	19.3	65.6	15.3	40.4	12.2	35.0	10.6	33.0
17	12.1	77.7	14.1	54.6	12.3	47.3	12.6	45.6
18	9.2	86.9	11.7	66.3	12.7	60.0	10.9	56.5
19	8.1	94.9	12.0	78.2	11.7	71.8	10.1	66.6
20	2.0	96.9	7.3	85.5	7.6	79.3	8.0	74.6
21	1.9	98.8	6.5	92.0	6.1	85.4	6.4	80.9
22	0.6	99.4	3.5	95.5	4.7	90.1	5.5	86.4
23	0.2	99.7	1.2	96.7	3.5	93.6	3.9	90.3
24	0.3	100.0	1.8	98.5	2.2	95.8	4.2	94.6
25	0.0	100.0	0.2	98.7	2.0	97.8	0.8	95.4
26	0.0	100.0	0.6	99.3	0.2	98.0	1.1	96.5
27	0.0	100.0	0.3	99.6	0.2	98.1	1.9	98.5
28	0.0	100.0	0.0	99.6	1.1	99.2	0.0	98.5
29	0.0	100.0	0.0	99.6	0.2	99.4	0.0	98.5
30	0.0	100.0	0.4	100.0	0.6	100.0	1.5	100.0
Mean	15.75		17.42		18.01		18.33	
SD	2.39		2.98		3.41		3.78	
Count*	2630		13160		12429		13729	

† Base Exam

* Number of examinations given to examinees

Table 2
Dental Admission Test
Reading Comprehension
Cumulative Percentile Distribution

	April 1989 †		2012		2017		2022	
Score	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
10	0.1	0.2	0.0	0.1	0.0	0.1	0.1	0.2
11	0.8	1.0	0.1	0.2	0.1	0.1	0.1	0.3
12	1.2	2.2	0.4	0.6	0.2	0.3	0.4	0.7
13	2.1	4.3	0.8	1.4	0.5	0.8	0.5	1.2
14	3.6	7.9	2.0	3.4	1.4	2.2	1.2	2.3
15	8.6	16.5	4.4	7.8	2.3	4.6	2.1	4.4
16	9.7	26.2	7.4	15.2	5.3	9.9	5.5	9.9
17	13.1	39.3	10.9	26.0	7.6	17.5	6.9	16.8
18	15.7	55.0	12.1	38.1	10.6	28.1	8.9	25.7
19	15.4	70.4	14.8	52.9	13.4	41.5	12.9	38.6
20	12.8	83.2	13.2	66.1	13.9	55.4	10.0	48.6
21	7.0	90.2	12.0	78.1	12.9	68.4	15.5	64.1
22	5.7	95.9	9.7	87.8	10.9	79.3	11.0	75.2
23	1.6	97.4	4.6	92.4	8.8	88.1	6.5	81.6
24	1.1	98.5	3.2	95.7	4.7	92.8	7.0	88.6
25	0.7	99.2	2.5	98.1	3.4	96.1	2.4	91.0
26	0.6	99.9	1.0	99.2	2.0	98.1	4.5	95.5
27	0.0	99.9	0.2	99.4	1.0	99.2	0.6	96.1
28	0.1	100.0	0.4	99.8	0.2	99.4	2.1	98.2
29	0.0	100.0	0.0	99.8	0.4	99.8	0.0	98.2
30	0.0	100.0	0.2	100.0	0.2	100.0	1.8	100.0
Mean	18.12		19.38		20.18		20.62	
SD	2.70		2.84		2.92		3.38	
Count	2255		13160		12429		13729	

† Base Exam
* Number of examinations given to examinees

Table 3
Dental Admission Test
Biology
Cumulative Percentile Distribution

	October 1988 †		2012		2017		2022	
Score	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	0.1	0.1	0.1
9	0.7	1.0	0.0	0.0	0.0	0.1	0.1	0.2
10	2.1	3.1	0.2	0.3	0.1	0.2	0.3	0.5
11	4.6	7.7	0.5	0.8	0.4	0.6	0.7	1.2
12	9.5	17.2	1.1	1.9	0.9	1.5	1.9	3.1
13	12.2	29.4	2.5	4.3	2.1	3.6	3.9	7.0
14	13.4	42.9	5.2	9.5	4.6	8.2	5.1	12.0
15	16.3	59.1	8.4	17.9	6.8	15.0	8.3	20.3
16	10.6	69.8	12.0	29.9	9.6	24.7	9.7	30.0
17	14.0	83.8	14.0	43.9	12.2	36.9	11.2	41.2
18	7.4	91.2	15.1	59.0	13.0	49.9	11.7	52.8
19	4.3	95.5	13.3	72.3	13.7	63.6	10.8	63.7
20	1.7	97.2	11.6	83.9	11.4	74.9	10.3	74.0
21	1.4	98.6	5.7	89.6	9.3	84.2	6.2	80.2
22	0.8	99.4	4.8	94.5	6.1	90.3	6.6	86.8
23	0.3	99.6	2.4	96.9	3.5	93.8	4.7	91.6
24	0.0	99.6	1.5	98.4	3.2	97.0	2.2	93.8
25	0.3	99.9	0.4	98.8	1.0	98.0	1.6	95.4
26	0.0	99.9	0.7	99.5	1.0	99.0	1.9	97.2
27	0.0	99.9	0.2	99.7	0.0	99.0	1.2	98.4
28	0.1	100.0	0.1	99.7	0.5	99.5	0.0	98.4
29	0.0	100.0	0.0	99.7	0.0	99.5	0.0	98.4
30	0.0	100.0	0.3	100.0	0.5	100.0	1.6	100.0
Mean	15.05		17.99		18.61		18.54	
SD	2.66		2.81		3.08		3.67	
Count*	2630		13160		12429		13729	

† Base Exam

* Number of examinations given to examinees

Table 4
Dental Admission Test
General Chemistry
Cumulative Percentile Distribution

Score	October 1988 †		2012		2017		2022	
	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	0.1	0.1	0.1
9	1.1	1.3	0.1	0.2	0.1	0.2	0.2	0.4
10	1.5	2.9	0.3	0.4	0.2	0.4	0.5	0.8
11	4.9	7.7	0.7	1.1	0.6	1.0	1.0	1.8
12	8.9	16.6	1.7	2.8	1.6	2.6	2.3	4.1
13	10.3	26.9	3.2	6.0	2.9	5.5	3.7	7.8
14	12.9	39.8	5.5	11.5	4.8	10.3	6.7	14.5
15	12.9	52.7	7.2	18.8	7.1	17.4	8.1	22.6
16	11.6	64.3	9.0	27.7	8.2	25.6	7.4	30.0
17	10.6	74.9	12.2	40.0	9.0	34.6	12.2	42.2
18	9.9	84.8	14.3	54.2	12.7	47.3	10.2	52.3
19	4.5	89.3	9.8	64.0	12.5	59.8	9.5	61.9
20	3.2	92.5	11.8	75.8	13.1	72.8	10.9	72.8
21	3.4	95.9	7.7	83.4	7.8	80.6	7.8	80.6
22	2.1	98.1	6.8	90.2	6.9	87.5	7.0	87.6
23	1.1	99.1	3.6	93.8	3.8	91.3	1.8	89.5
24	0.0	99.1	2.4	96.2	2.7	94.0	3.3	92.8
25	0.0	99.1	1.5	97.7	1.4	95.4	2.4	95.2
26	0.7	99.8	0.9	98.6	2.6	98.0	1.2	96.4
27	0.0	99.8	0.0	98.6	0.9	98.9	0.9	97.4
28	0.0	99.8	0.5	99.1	0.0	98.9	1.5	98.8
29	0.2	100.0	0.6	99.8	0.4	99.3	0.0	98.8
30	0.0	100.0	0.2	100.0	0.7	100.0	1.2	100.0
Mean	15.54		18.40		18.78		18.51	
SD	3.14		3.31		3.48		3.85	
Count*	2630		13160		12429		13729	

† Base Exam
* Number of examinations given to examinees

Table 5
Dental Admission Test
Organic Chemistry
Cumulative Percentile Distribution

Score	October 1988 †		2012		2017		2022	
	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent
1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1
2	0.0	0.1	0.0	0.0	0.0	0.1	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	0.1	0.2	0.0	0.1	0.1	0.2
8	0.5	1.4	0.0	0.2	0.1	0.2	0.1	0.3
9	3.2	4.6	0.2	0.5	0.2	0.4	0.3	0.6
10	2.9	7.5	0.4	0.8	0.5	0.9	1.0	1.6
11	7.6	15.1	1.3	2.1	1.2	2.1	1.7	3.4
12	10.2	25.2	2.1	4.3	2.1	4.3	3.1	6.5
13	16.0	41.3	3.7	8.0	3.7	8.0	5.2	11.7
14	11.3	52.6	6.2	14.2	5.8	13.8	6.1	17.8
15	10.3	62.9	8.1	22.4	7.1	20.9	8.0	25.8
16	14.3	77.1	11.0	33.4	8.6	29.5	9.4	35.2
17	4.4	81.5	11.6	44.9	8.0	37.5	9.7	44.9
18	7.6	89.2	9.0	54.0	10.5	48.0	10.5	55.4
19	3.4	92.6	12.6	66.5	11.2	59.2	9.5	64.8
20	2.3	94.9	9.2	75.8	8.4	67.5	8.7	73.6
21	2.3	97.2	8.4	84.2	8.1	75.6	8.5	82.1
22	1.6	98.8	4.6	88.8	7.5	83.1	6.2	88.3
23	0.0	98.8	4.0	92.8	7.0	90.2	2.6	90.9
24	1.0	99.8	1.7	94.6	2.1	92.3	2.9	93.8
25	0.0	99.8	2.4	97.0	1.0	93.3	1.0	94.8
26	0.0	99.8	0.6	97.6	3.6	97.0	2.9	97.7
27	0.2	100.0	0.6	98.2	0.5	97.5	0.7	98.4
28	0.0	100.0	0.7	98.9	0.5	98.0	0.0	98.4
29	0.0	100.0	1.1	99.9	0.7	98.7	0.0	98.5
30	0.0	100.0	0.1	100.0	1.3	100.0	1.5	100.0
Mean	14.58		18.20		18.81		18.15	
SD	3.25		3.63		3.98		3.99	
Count*	2630		13160		12429		13729	

† Base Exam
* Number of examinations given to examinees

Table 6
Dental Admission Test
Survey of the Natural Sciences
Cumulative Percentile Distribution

	October 1988 †		2012		2017		2022	
Score	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	0.3	0.4	0.2	0.3	0.5	0.7
12	7.7	13.0	1.0	1.4	0.9	1.1	2.0	2.7
13	12.5	25.4	2.5	3.9	2.7	3.8	3.9	6.6
14	18.4	43.8	5.4	9.2	4.5	8.4	6.1	12.7
15	14.3	58.1	8.6	17.9	7.0	15.4	8.7	21.5
16	14.0	72.2	11.4	29.3	9.8	25.1	9.8	31.2
17	11.4	83.5	14.3	43.6	11.2	36.3	11.6	42.8
18	7.7	91.3	14.5	58.2	12.8	49.1	11.3	54.1
19	5.0	96.3	14.1	72.3	13.8	63.0	11.4	65.5
20	1.5	97.8	10.2	82.5	11.6	74.6	10.1	75.6
21	1.1	98.9	7.5	90.0	9.1	83.7	8.0	83.6
22	0.8	99.6	4.7	94.7	6.7	90.4	6.1	89.7
23	0.1	99.7	2.5	97.3	4.2	94.6	3.4	93.1
24	0.2	99.8	1.3	98.6	2.5	97.1	3.0	96.1
25	0.1	99.9	0.7	99.3	1.6	98.7	1.7	97.8
26	0.1	100.0	0.5	99.7	0.7	99.4	1.0	98.8
27	0.0	100.0	0.1	99.8	0.2	99.7	0.5	99.3
28	0.0	100.0	0.1	99.9	0.2	99.9	0.3	99.6
29	0.0	100.0	0.1	99.9	0.0	99.9	0.2	99.8
30	0.0	100.0	0.1	100.0	0.1	100.0	0.2	100.0
Mean	15.14		18.02		18.59		18.29	
SD	2.43		2.73		2.99		3.34	
Count*	2630		13160		12429		13729	

† Base Exam

* Number of examinations given to examinees

Table 7
Dental Admission Test
Perceptual Ability
Cumulative Percentile Distribution

	October 1988 †		2012		2017		2022	
Score	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	0.1	0.1	0.0	0.0	0.0	0.0
10	0.2	0.3	0.2	0.2	0.0	0.0	0.0	0.1
11	1.4	1.7	0.3	0.5	0.2	0.2	0.2	0.2
12	3.4	5.1	1.0	1.6	0.5	0.6	0.8	1.0
13	7.6	12.7	1.9	3.5	1.1	1.8	1.9	2.9
14	14.3	27.0	3.6	7.1	2.7	4.4	3.2	6.0
15	14.5	41.5	6.5	13.6	4.9	9.3	6.1	12.1
16	18.4	59.8	8.0	21.5	7.9	17.2	8.8	20.9
17	10.9	70.8	11.2	32.7	10.8	28.0	11.8	32.7
18	11.2	81.9	13.3	46.1	14.0	42.0	15.3	47.9
19	8.1	90.0	15.3	61.3	15.6	57.5	14.7	62.6
20	4.1	94.1	12.5	73.8	14.6	72.2	11.9	74.5
21	2.7	96.8	9.4	83.2	11.7	83.9	9.9	84.5
22	1.4	98.2	8.3	91.5	7.6	91.5	6.6	91.1
23	1.0	99.2	4.2	95.7	4.4	95.9	4.5	95.5
24	0.5	99.7	2.4	98.1	2.4	98.3	2.3	97.8
25	0.2	99.9	1.1	99.2	1.2	99.5	1.4	99.1
26	0.1	100.0	0.4	99.6	0.2	99.7	0.4	99.5
27	0.0	100.0	0.3	99.9	0.2	99.9	0.3	99.8
28	0.0	100.0	0.0	99.9	0.0	100.0	0.1	99.9
29	0.0	100.0	0.0	99.9	0.0	100.0	0.0	99.9
30	0.0	100.0	0.1	100.0	0.0	100.0	0.1	100.0
Mean	16.21		18.71		18.98		18.72	
SD	2.58		2.86		2.62		2.80	
Count	2630		13160		12429		13729	

† Base Exam
* Number of examinations given to examinees

Table 8
Dental Admission Test
Academic Average
Cumulative Percentile Distribution

Score	October 1988 †		2012		2017		2022	
	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	0.0	0.0	0.0	0.1
11	1.7	2.1	0.2	0.2	0.1	0.1	0.2	0.3
12	5.2	7.3	0.5	0.8	0.3	0.5	0.8	1.1
13	11.3	18.7	1.5	2.3	1.2	1.7	1.7	2.8
14	16.0	34.6	3.6	5.9	2.9	4.6	4.2	7.0
15	16.9	51.5	7.0	12.9	5.7	10.2	6.7	13.7
16	16.7	68.2	10.6	23.5	9.4	19.6	9.4	23.1
17	12.8	81.0	14.6	38.1	11.8	31.5	11.8	34.8
18	9.7	90.6	16.5	54.5	14.0	45.5	12.9	47.8
19	5.0	95.7	15.5	70.0	14.4	60.0	13.1	60.8
20	2.3	97.9	12.0	82.1	13.2	73.1	11.3	72.1
21	1.4	99.4	8.1	90.2	10.0	83.2	8.9	81.0
22	0.4	99.8	4.7	94.9	7.3	90.5	6.7	87.7
23	0.2	99.9	3.0	97.9	4.4	94.9	4.7	92.4
24	0.1	100.0	1.3	99.2	2.8	97.7	3.3	95.7
25	0.0	100.0	0.5	99.7	1.3	99.0	2.2	97.9
26	0.0	100.0	0.2	99.9	0.7	99.7	1.3	99.1
27	0.0	100.0	0.1	100.0	0.2	99.9	0.6	99.7
28	0.0	100.0	0.0	100.0	0.1	100.0	0.2	99.9
29	0.0	100.0	0.0	100.0	0.0	100.0	0.1	100.0
30	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0
Mean	15.53		18.28		18.88		18.83	
SD	2.24		2.49		2.72		3.08	
Count*	2630		13160		12429		13729	

† Base Exam
* Number of examinations given to examinees

Table 9
Dental Admission Test
Standard Score Analysis
2022

N = 13,729	Number of Items	Mean	S.D
Quantitative Reasoning	40	18.33	3.78
Reading Comprehension	50	20.62	3.38
Biology	40	18.54	3.67
General Chemistry	30	18.51	3.85
Organic Chemistry	30	18.15	3.99
Survey of the Natural Sciences	100	18.29	3.34
Perceptual Ability	90	18.72	2.80
Academic Average		18.83	3.08

Table 10
First-Year Class
Corrected Correlation Coefficients (Pearson R)
Meta-Analysis Results
School Year 2018-2020

	Biomedical Science	Preclinical Operative Technique	First Year GPA
Predental GPAs			
Total†	0.35	0.28	0.38
Science†	0.33	0.28	0.34
DAT Scores			
Quantitative Reasoning‡	0.27	0.24	0.29
Reading Comprehension‡	0.27	0.23	0.29
Biology‡	0.41	0.18	0.37
General Chemistry‡	0.38	0.24	0.37
Organic Chemistry‡	0.38	0.22	0.36
Survey of the Natural Sciences‡	0.56	0.33	0.53
Perceptual Ability‡	0.26	0.38	0.31
Academic Average‡	0.60	0.40	0.58
Multiple R			
DAT†	0.47	0.41	0.47
DAT and GPAs†	0.55	0.48	0.55

† Correlation is corrected for unreliability in dental school grades.
‡ Correlation is corrected for range restriction and unreliability in dental school grades.

Table 11
Dental Admission Test
Scores for First Time Test Takers and Repeaters
2022

Subject	First Time Test Takers		Repeaters	
	Mean	Std. Dev.	Mean	Std. Dev.
Quantitative Reasoning	18.51	3.83	16.94	3.02
Reading Comprehension	20.76	3.38	19.55	3.18
Biology	18.76	3.73	16.79	2.58
General Chemistry	18.72	3.90	16.81	2.88
Organic Chemistry	18.37	4.04	16.39	3.01
Survey of the Natural Sciences	18.49	3.39	16.63	2.26
Perceptual Ability	18.83	2.82	17.85	2.49
Academic Average	19.02	3.12	17.29	2.15

Table 12
Dental Admission Test
Quantitative Reasoning by Gender
2022

Score	Females	Males	Total	Count
1	0.0%	0.1%	0.1%	8
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%	1
6	0.0%	0.0%	0.0%	0
7	0.0%	0.0%	0.0%	1
8	0.1%	0.0%	0.1%	9
9	0.2%	0.1%	0.2%	22
10	0.3%	0.1%	0.2%	30
11	1.4%	0.6%	1.1%	147
12	2.9%	1.2%	2.2%	303
13	5.0%	2.2%	4.0%	539
14	7.3%	4.4%	6.2%	851
15	9.7%	6.5%	8.5%	1162
16	11.7%	8.8%	10.6%	1443
17	13.0%	11.9%	12.6%	1719
18	11.1%	10.5%	10.9%	1484
19	9.7%	10.8%	10.1%	1378
20	7.4%	9.0%	8.0%	1089
21	5.7%	7.4%	6.3%	865
22	4.5%	7.0%	5.5%	743
23	3.2%	5.0%	3.9%	532
24	3.1%	6.1%	4.2%	573
25	0.6%	1.2%	0.8%	111
26	0.8%	1.7%	1.1%	154
27	1.2%	3.0%	1.9%	259
28	0.0%	0.0%	0.0%	1
29	0.0%	0.0%	0.0%	0
30	1.0%	2.4%	1.5%	206
	62.7%	37.3%	100.0%	13630
Mean	17.75	19.26	18.32	
SD	3.59	3.89	3.78	
Count*	8542	5088	13630	

* Number of examinations given to examinees

Table 13
Dental Admission Test
Reading Comprehension by Gender
2022

Score	Females	Males	Total	Count
1	0.0%	0.1%	0.1%	7
2	0.0%	0.0%	0.0%	1
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%	1
8	0.0%	0.0%	0.0%	2
9	0.0%	0.0%	0.0%	2
10	0.1%	0.0%	0.1%	9
11	0.1%	0.1%	0.1%	13
12	0.5%	0.3%	0.4%	57
13	0.5%	0.4%	0.5%	65
14	1.2%	1.0%	1.2%	158
15	2.0%	2.3%	2.1%	286
16	5.8%	5.0%	5.5%	744
17	7.3%	6.4%	6.9%	944
18	9.3%	8.2%	8.9%	1216
19	13.3%	12.3%	13.0%	1768
20	9.9%	10.3%	10.0%	1366
21	15.6%	15.3%	15.5%	2116
22	10.5%	12.0%	11.0%	1502
23	6.1%	7.0%	6.4%	877
24	6.7%	7.4%	6.9%	947
25	2.4%	2.4%	2.4%	325
26	4.5%	4.5%	4.5%	613
27	0.5%	0.8%	0.6%	82
28	1.9%	2.3%	2.1%	282
29	0.0%	0.0%	0.0%	5
30	1.8%	1.7%	1.8%	241
	62.7%	37.3%	100.0%	13630
Mean	20.52	20.78	20.62	
SD	3.38	3.36	3.37	
Count*	8542	5088	13630	

* Number of examinations given to examinees

Table 14
Dental Admission Test
Biology by Gender
2022

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%	0.1%	9
9	0.1%	0.1%	0.1%	14
10	0.3%	0.2%	0.3%	38
11	0.8%	0.6%	0.7%	97
12	2.2%	1.3%	1.9%	260
13	4.5%	3.0%	3.9%	535
14	5.7%	4.0%	5.1%	693
15	9.3%	6.6%	8.3%	1127
16	10.5%	8.5%	9.7%	1324
17	11.3%	11.0%	11.2%	1527
18	11.9%	11.5%	11.7%	1596
19	11.0%	10.4%	10.8%	1470
20	10.2%	10.6%	10.4%	1412
21	5.4%	7.6%	6.2%	846
22	6.0%	7.7%	6.6%	900
23	4.2%	5.6%	4.7%	641
24	1.8%	2.8%	2.2%	300
25	1.3%	2.1%	1.6%	215
26	1.5%	2.5%	1.8%	251
27	0.8%	1.8%	1.2%	161
28	0.0%	0.0%	0.0%	1
29	0.0%	0.0%	0.0%	0
30	1.2%	2.2%	1.5%	211
	62.7%	37.3%	100.0%	13630
Mean	18.16	19.13	18.52	
SD	3.55	3.77	3.66	
Count*	8542	5088	13630	

* Number of examinations given to examinees

Table 15
Dental Admission Test
General Chemistry by Gender
2022

Score	Females	Males	Total	Count
1	0.0%	0.1%	0.1%	7
2	0.0%	0.0%	0.0%	3
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%	2
8	0.1%	0.0%	0.1%	7
9	0.3%	0.2%	0.2%	32
10	0.6%	0.3%	0.5%	64
11	1.2%	0.6%	1.0%	134
12	2.7%	1.6%	2.3%	312
13	4.6%	2.2%	3.7%	504
14	7.6%	5.2%	6.7%	915
15	9.6%	5.7%	8.1%	1105
16	7.9%	6.6%	7.4%	1014
17	13.1%	10.7%	12.2%	1667
18	10.1%	10.4%	10.2%	1389
19	9.4%	9.8%	9.5%	1301
20	10.4%	11.8%	10.9%	1490
21	6.9%	9.1%	7.7%	1053
22	5.9%	8.9%	7.0%	952
23	1.5%	2.4%	1.8%	249
24	2.4%	4.8%	3.3%	453
25	2.0%	3.0%	2.4%	325
26	1.0%	1.7%	1.2%	169
27	0.7%	1.3%	0.9%	128
28	1.1%	2.0%	1.5%	198
29	0.0%	0.0%	0.0%	0
30	0.9%	1.6%	1.2%	157
	62.7%	37.3%	100.0%	13630
Mean	18.02	19.31	18.50	
SD	3.74	3.89	3.85	
Count*	8542	5088	13630	

* Number of examinations given to examinees

Table 16
Dental Admission Test
Organic Chemistry by Gender
2022

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%	0
4	0.0%	0.0%	0.0%	0
5	0.0%	0.0%	0.0%	1
6	0.0%	0.0%	0.0%	0
7	0.1%	0.1%	0.1%	14
8	0.1%	0.0%	0.1%	13
9	0.3%	0.3%	0.3%	43
10	1.3%	0.6%	1.0%	143
11	2.1%	1.0%	1.7%	236
12	3.7%	2.2%	3.2%	430
13	5.8%	4.2%	5.2%	713
14	6.7%	5.0%	6.1%	832
15	8.7%	6.9%	8.0%	1095
16	10.1%	8.2%	9.4%	1276
17	10.2%	8.8%	9.7%	1317
18	10.7%	10.2%	10.6%	1438
19	9.4%	9.6%	9.5%	1294
20	8.2%	9.7%	8.7%	1191
21	7.8%	9.5%	8.4%	1149
22	5.3%	7.8%	6.2%	847
23	2.2%	3.5%	2.6%	360
24	2.3%	3.8%	2.8%	386
25	0.7%	1.5%	1.0%	139
26	2.4%	3.8%	2.9%	397
27	0.5%	0.9%	0.7%	93
28	0.0%	0.0%	0.0%	0
29	0.0%	0.0%	0.0%	1
30	1.1%	2.2%	1.5%	211
	62.7%	37.3%	100.0%	13630
Mean	17.70	18.87	18.14	
SD	3.88	4.05	3.98	
Count*	8542	5088	13630	

* Number of examinations given to examinees

Table 17
Dental Admission Test
Survey of the Natural Sciences by Gender
2022

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	0.2%	0.0%	0.1%	17
11	0.6%	0.4%	0.6%	75
12	2.4%	1.5%	2.1%	280
13	4.7%	2.4%	3.9%	526
14	7.1%	4.6%	6.1%	838
15	9.8%	7.1%	8.8%	1196
16	10.6%	8.5%	9.8%	1337
17	12.4%	10.3%	11.6%	1580
18	11.5%	11.0%	11.3%	1538
19	11.1%	11.9%	11.4%	1556
20	9.3%	11.5%	10.1%	1375
21	7.4%	9.0%	8.0%	1091
22	5.2%	7.5%	6.0%	821
23	2.8%	4.5%	3.4%	465
24	2.2%	4.3%	3.0%	405
25	1.3%	2.3%	1.7%	230
26	0.8%	1.4%	1.0%	136
27	0.4%	0.8%	0.5%	73
28	0.2%	0.4%	0.2%	34
29	0.1%	0.2%	0.1%	20
30	0.2%	0.4%	0.2%	34
	62.7%	37.3%	100.0%	13630
Mean	17.87	18.94	18.27	
SD	3.24	3.38	3.33	
Count*	8542	5088	13630	

* Number of examinations given to examinees

Table 18
Dental Admission Test
Perceptual Ability by Gender
2022

Score	Females	Males	Total	Count
1	0.0%	0.0%	0.0%	4
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%	1
10	0.0%	0.0%	0.0%	6
11	0.2%	0.1%	0.2%	22
12	0.9%	0.6%	0.8%	103
13	2.4%	1.1%	1.9%	256
14	3.7%	2.2%	3.1%	427
15	7.0%	4.5%	6.1%	829
16	9.8%	7.3%	8.9%	1208
17	12.7%	10.2%	11.8%	1608
18	16.4%	13.5%	15.3%	2086
19	14.8%	14.4%	14.7%	1998
20	11.3%	13.0%	11.9%	1621
21	8.7%	12.1%	9.9%	1355
22	5.7%	8.0%	6.6%	896
23	3.4%	6.0%	4.4%	601
24	1.5%	3.5%	2.3%	307
25	0.9%	2.1%	1.3%	184
26	0.2%	0.7%	0.4%	52
27	0.2%	0.4%	0.3%	38
28	0.1%	0.2%	0.1%	16
29	0.0%	0.0%	0.0%	0
30	0.1%	0.1%	0.1%	11
	62.7%	37.3%	100.0%	13630
Mean	18.36	19.29	18.71	
SD	2.71	2.84	2.80	
Count*	8542	5088	13630	

* Number of examinations given to examinees

Table 19
Dental Admission Test
Academic Average by Gender
2022

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%	3
6	0.0%	0.0%	0.0%	1
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%	6
11	0.3%	0.1%	0.2%	28
12	1.1%	0.4%	0.8%	114
13	2.0%	1.3%	1.7%	234
14	5.1%	2.7%	4.2%	569
15	7.8%	4.8%	6.7%	916
16	10.5%	7.6%	9.4%	1284
17	12.7%	10.2%	11.8%	1606
18	13.8%	11.5%	12.9%	1764
19	12.4%	14.2%	13.1%	1786
20	10.7%	12.2%	11.3%	1540
21	8.1%	10.1%	8.8%	1202
22	6.0%	7.9%	6.7%	914
23	3.8%	6.0%	4.7%	634
24	2.6%	4.4%	3.2%	442
25	1.6%	3.2%	2.2%	295
26	0.9%	1.8%	1.2%	170
27	0.3%	1.0%	0.6%	81
28	0.2%	0.3%	0.2%	29
29	0.1%	0.1%	0.1%	10
30	0.0%	0.0%	0.0%	0
	62.7%	37.3%	100.0%	13630
Mean	18.43	19.46	18.82	
SD	2.99	3.10	3.08	
Count*	8542	5088	13630	

* Number of examinations given to examinees

Table 20
Dental Admission Test
Quantitative Reasoning by Ethnicity
2022

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.1%	0.0%	0.1%	0.1%	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%	0
5	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
7	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	1
8	1.4%	0.0%	0.0%	0.4%	0.1%	0.0%	0.1%	8
9	0.0%	0.0%	0.0%	0.5%	0.5%	0.1%	0.2%	20
10	0.0%	0.1%	0.0%	0.5%	0.4%	0.1%	0.2%	28
11	0.0%	0.4%	0.0%	3.5%	2.0%	0.8%	1.1%	139
12	0.0%	1.4%	0.0%	7.0%	4.5%	1.2%	2.2%	289
13	6.8%	2.1%	0.0%	11.3%	6.9%	2.7%	3.9%	506
14	15.1%	4.0%	19.5%	13.4%	9.0%	5.1%	6.1%	797
15	11.0%	5.8%	7.3%	15.3%	12.2%	7.8%	8.5%	1117
16	15.1%	8.7%	14.6%	12.0%	12.3%	10.9%	10.6%	1389
17	13.7%	9.5%	14.6%	12.1%	14.9%	13.8%	12.6%	1652
18	9.6%	9.7%	9.8%	7.8%	9.7%	12.5%	10.9%	1429
19	5.5%	10.2%	19.5%	5.7%	8.1%	11.6%	10.2%	1331
20	6.8%	9.5%	7.3%	4.1%	5.2%	8.9%	8.1%	1064
21	8.2%	7.8%	0.0%	2.6%	4.4%	6.9%	6.4%	841
22	0.0%	7.1%	2.4%	1.8%	2.9%	6.0%	5.5%	715
23	2.7%	5.7%	0.0%	0.7%	2.3%	3.9%	3.9%	514
24	1.4%	7.8%	0.0%	0.7%	1.7%	3.5%	4.2%	552
25	1.4%	1.5%	0.0%	0.1%	0.4%	0.7%	0.8%	109
26	1.4%	2.2%	2.4%	0.0%	0.6%	0.9%	1.1%	150
27	0.0%	3.7%	0.0%	0.2%	0.7%	1.6%	1.9%	250
28	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1
29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
30	0.0%	2.8%	2.4%	0.1%	1.0%	1.2%	1.5%	199
	0.6%	28.1%	0.3%	8.6%	14.0%	48.8%	100.0%	13109
Mean	17.01	19.67	17.49	15.66	16.92	18.47	18.34	
SD	3.19	4.00	3.23	2.95	3.50	3.44	3.77	
Count*	73	3682	41	1121	1833	6400	13109	

* Number of examinations given to examinees

Table 21
Dental Admission Test
Reading Comprehension by Ethnicity
2022

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	6
2	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
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%	0.1%	0.0%	0.0%	1
8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2
9	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	2
10	0.0%	0.0%	0.0%	0.2%	0.0%	0.1%	0.1%	8
11	0.0%	0.0%	0.0%	0.4%	0.1%	0.1%	0.1%	13
12	0.0%	0.3%	0.0%	1.4%	0.4%	0.3%	0.4%	55
13	2.7%	0.4%	0.0%	0.8%	0.7%	0.4%	0.5%	61
14	0.0%	1.0%	0.0%	2.7%	1.3%	0.9%	1.1%	148
15	2.7%	1.8%	2.4%	4.6%	2.9%	1.4%	2.0%	266
16	5.5%	4.5%	4.9%	10.1%	7.5%	4.4%	5.4%	704
17	4.1%	5.9%	9.8%	11.4%	8.9%	5.8%	6.8%	886
18	11.0%	8.5%	14.6%	11.8%	11.2%	7.9%	8.9%	1163
19	16.4%	12.3%	2.4%	14.2%	14.8%	12.5%	12.9%	1695
20	12.3%	9.5%	22.0%	9.1%	8.8%	10.8%	10.0%	1315
21	21.9%	14.7%	7.3%	12.2%	15.2%	16.9%	15.7%	2053
22	4.1%	11.8%	2.4%	8.3%	9.5%	11.7%	11.1%	1454
23	4.1%	6.9%	17.1%	3.7%	4.6%	7.3%	6.5%	851
24	9.6%	7.7%	4.9%	4.4%	5.4%	7.5%	7.0%	921
25	0.0%	3.0%	4.9%	1.2%	1.9%	2.5%	2.4%	316
26	2.7%	5.6%	2.4%	1.5%	3.6%	4.8%	4.5%	596
27	1.4%	0.6%	2.4%	0.1%	0.9%	0.6%	0.6%	80
28	0.0%	2.8%	0.0%	1.1%	1.3%	2.1%	2.1%	270
29	0.0%	0.1%	2.4%	0.0%	0.0%	0.0%	0.0%	4
30	1.4%	2.3%	0.0%	0.7%	0.7%	2.0%	1.8%	237
	0.6%	28.1%	0.3%	8.6%	14.0%	48.8%	100.0%	13109
Mean	20.15	21.01	20.68	19.11	19.96	20.91	20.65	
SD	3.05	3.47	3.23	3.26	3.23	3.27	3.37	
Count*	73	3682	41	1121	1833	6400	13109	

* Number of examinations given to examinees

Table 22
Dental Admission Test
Biology by Ethnicity
2022

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%	0.3%	0.1%	0.0%	0.1%	9
9	0.0%	0.1%	0.0%	0.2%	0.2%	0.1%	0.1%	13
10	0.0%	0.2%	0.0%	0.5%	0.5%	0.2%	0.3%	36
11	0.0%	0.4%	0.0%	1.8%	1.0%	0.6%	0.7%	90
12	8.2%	1.4%	0.0%	5.2%	2.1%	1.4%	1.9%	247
13	6.8%	2.7%	4.9%	7.8%	5.3%	3.4%	3.9%	509
14	2.7%	3.9%	4.9%	10.0%	6.7%	4.5%	5.1%	671
15	8.2%	5.6%	17.1%	13.5%	10.1%	8.3%	8.3%	1082
16	12.3%	7.8%	14.6%	11.6%	11.3%	9.9%	9.6%	1265
17	21.9%	9.1%	14.6%	12.0%	12.2%	11.9%	11.2%	1470
18	15.1%	10.6%	12.2%	11.2%	12.4%	12.1%	11.6%	1526
19	9.6%	11.0%	7.3%	8.7%	10.3%	11.3%	10.8%	1422
20	5.5%	12.0%	7.3%	5.8%	8.5%	11.0%	10.4%	1368
21	6.8%	7.6%	0.0%	2.9%	4.6%	6.4%	6.2%	809
22	1.4%	9.3%	7.3%	3.9%	5.1%	6.1%	6.6%	868
23	1.4%	6.2%	7.3%	1.5%	4.1%	4.8%	4.8%	628
24	0.0%	2.9%	2.4%	0.7%	1.4%	2.3%	2.2%	285
25	0.0%	2.5%	0.0%	0.4%	1.1%	1.4%	1.6%	207
26	0.0%	2.5%	0.0%	1.1%	1.3%	1.8%	1.9%	244
27	0.0%	1.6%	0.0%	0.4%	0.6%	1.3%	1.2%	155
28	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1
29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
30	0.0%	2.6%	0.0%	0.4%	1.1%	1.3%	1.5%	202
	0.6%	28.1%	0.3%	8.6%	14.0%	48.8%	100.0%	13109
Mean	16.88	19.41	17.63	16.70	17.82	18.58	18.54	
SD	2.62	3.78	2.93	3.34	3.50	3.53	3.66	
Count*	73	3682	41	1121	1833	6400	13109	

* Number of examinations given to examinees

Table 23
Dental Admission Test
General Chemistry by Ethnicity
2022

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	6
2	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	3
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%	2
8	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%	0.1%	7
9	0.0%	0.1%	4.9%	0.7%	0.3%	0.2%	0.2%	31
10	0.0%	0.4%	0.0%	1.2%	0.9%	0.3%	0.5%	61
11	2.7%	0.8%	0.0%	2.8%	1.0%	0.7%	1.0%	126
12	2.7%	1.0%	2.4%	7.0%	3.6%	1.8%	2.3%	298
13	11.0%	2.2%	0.0%	8.3%	4.8%	3.2%	3.6%	473
14	12.3%	4.1%	9.8%	11.8%	9.4%	6.5%	6.7%	882
15	8.2%	5.0%	4.9%	14.1%	11.0%	8.1%	8.1%	1066
16	11.0%	6.0%	7.3%	7.9%	8.7%	7.9%	7.5%	984
17	13.7%	10.2%	14.6%	13.6%	13.1%	12.8%	12.2%	1602
18	15.1%	10.2%	7.3%	7.7%	9.5%	10.6%	10.1%	1326
19	4.1%	9.3%	12.2%	7.6%	9.9%	10.0%	9.5%	1250
20	6.8%	12.3%	4.9%	6.8%	8.3%	11.7%	11.0%	1437
21	5.5%	10.2%	7.3%	2.3%	6.1%	7.8%	7.8%	1018
22	2.7%	9.0%	17.1%	3.7%	5.3%	6.9%	7.0%	915
23	1.4%	3.0%	0.0%	0.8%	1.3%	1.5%	1.8%	240
24	0.0%	4.5%	4.9%	1.2%	2.3%	3.4%	3.3%	439
25	1.4%	3.4%	0.0%	1.0%	1.5%	2.3%	2.4%	314
26	0.0%	1.8%	0.0%	0.3%	0.9%	1.2%	1.2%	162
27	0.0%	1.5%	0.0%	0.4%	0.5%	0.8%	0.9%	121
28	1.4%	2.4%	2.4%	0.4%	0.8%	1.3%	1.5%	191
29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
30	0.0%	2.4%	0.0%	0.4%	0.7%	0.8%	1.2%	155
	0.6%	28.1%	0.3%	8.6%	14.0%	48.8%	100.0%	13109
Mean	16.75	19.66	18.24	16.33	17.62	18.50	18.51	
SD	3.25	3.96	3.94	3.49	3.65	3.66	3.85	
Count*	73	3682	41	1121	1833	6400	13109	

* Number of examinations given to examinees

Table 24
Dental Admission Test
Organic Chemistry by Ethnicity
2022

Score	American Indian	Asian	Native Hawaiian	Black	Multi	White	Total	Count
1	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	9
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%	1
6	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
7	1.4%	0.1%	0.0%	0.2%	0.4%	0.0%	0.1%	14
8	0.0%	0.1%	0.0%	0.4%	0.1%	0.0%	0.1%	11
9	1.4%	0.2%	0.0%	0.7%	0.7%	0.2%	0.3%	42
10	2.7%	0.7%	2.4%	2.8%	1.5%	0.8%	1.0%	136
11	1.4%	1.2%	0.0%	4.2%	2.1%	1.5%	1.7%	225
12	2.7%	2.3%	2.4%	7.0%	4.1%	2.8%	3.2%	417
13	13.7%	3.9%	4.9%	9.0%	6.9%	4.7%	5.2%	681
14	5.5%	4.2%	9.8%	9.8%	7.8%	6.2%	6.1%	806
15	15.1%	6.4%	14.6%	9.7%	8.2%	8.6%	8.0%	1052
16	15.1%	7.7%	7.3%	11.7%	11.2%	9.4%	9.4%	1234
17	6.8%	9.2%	7.3%	10.0%	9.8%	9.8%	9.6%	1263
18	11.0%	10.1%	9.8%	9.9%	10.7%	10.7%	10.5%	1373
19	8.2%	9.5%	9.8%	7.9%	9.7%	9.8%	9.5%	1248
20	5.5%	9.6%	4.9%	5.9%	6.7%	9.4%	8.7%	1144
21	2.7%	10.4%	14.6%	4.0%	6.9%	8.7%	8.5%	1110
22	1.4%	7.6%	4.9%	2.8%	5.0%	6.3%	6.2%	808
23	0.0%	3.7%	0.0%	1.0%	1.9%	2.5%	2.6%	343
24	2.7%	4.2%	0.0%	1.2%	2.0%	2.6%	2.9%	376
25	1.4%	1.3%	0.0%	0.4%	0.8%	1.0%	1.0%	135
26	1.4%	4.5%	7.3%	0.6%	2.2%	2.7%	3.0%	387
27	0.0%	0.9%	0.0%	0.2%	0.4%	0.7%	0.7%	91
28	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1
30	0.0%	2.3%	0.0%	0.4%	1.1%	1.4%	1.5%	202
	0.6%	28.1%	0.3%	8.6%	14.0%	48.8%	100.0%	13109
Mean	16.22	19.03	17.78	16.15	17.40	18.22	18.14	
SD	3.58	4.06	3.78	3.59	3.89	3.86	3.98	
Count*	73	3682	41	1121	1833	6400	13109	

* Number of examinations given to examinees

Table 25
Dental Admission Test
Survey of the Natural Sciences by Ethnicity
2022

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%	0.1%	0.0%	0.3%	0.1%	0.1%	0.1%	15
11	2.7%	0.4%	0.0%	1.4%	0.8%	0.4%	0.5%	70
12	4.1%	1.4%	2.4%	6.1%	2.9%	1.4%	2.0%	267
13	6.8%	2.4%	2.4%	10.1%	5.5%	3.1%	3.8%	503
14	9.6%	3.9%	9.8%	11.4%	8.2%	5.8%	6.1%	800
15	12.3%	5.8%	14.6%	12.9%	10.7%	9.2%	8.8%	1151
16	12.3%	7.8%	14.6%	12.4%	11.0%	10.1%	9.8%	1287
17	12.3%	10.0%	2.4%	11.7%	13.6%	12.1%	11.7%	1531
18	20.5%	11.3%	12.2%	11.1%	11.1%	11.2%	11.2%	1472
19	5.5%	11.2%	12.2%	7.4%	10.1%	12.6%	11.4%	1490
20	5.5%	11.2%	7.3%	6.6%	8.9%	10.5%	10.1%	1322
21	1.4%	10.3%	4.9%	3.3%	5.7%	8.2%	8.0%	1050
22	4.1%	8.8%	9.8%	1.9%	3.8%	5.9%	6.1%	794
23	2.7%	4.9%	7.3%	1.4%	2.3%	3.3%	3.5%	454
24	0.0%	4.2%	0.0%	1.0%	2.4%	2.9%	3.0%	396
25	0.0%	2.4%	0.0%	0.3%	1.3%	1.6%	1.7%	219
26	0.0%	1.8%	0.0%	0.4%	0.8%	0.7%	1.0%	131
27	0.0%	0.9%	0.0%	0.3%	0.4%	0.4%	0.5%	69
28	0.0%	0.4%	0.0%	0.0%	0.1%	0.3%	0.2%	32
29	0.0%	0.2%	0.0%	0.0%	0.0%	0.2%	0.1%	19
30	0.0%	0.7%	0.0%	0.0%	0.1%	0.1%	0.3%	34
	0.6%	28.1%	0.3%	8.6%	14.0%	48.8%	100.0%	13109
Mean	16.60	19.20	17.76	16.36	17.55	18.32	18.28	
SD	2.77	3.43	3.06	3.01	3.20	3.18	3.33	
Count*	73	3682	41	1121	1833	6400	13109	

* Number of examinations given to examinees

Table 26
Dental Admission Test
Perceptual Ability by Ethnicity
2022

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%	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%	0.0%	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%	0.0%	0.0%	0.0%	5
11	0.0%	0.2%	0.0%	0.6%	0.4%	0.0%	0.2%	22
12	0.0%	0.6%	0.0%	3.1%	0.9%	0.5%	0.8%	102
13	4.1%	1.4%	0.0%	6.4%	2.7%	1.1%	1.9%	245
14	5.5%	2.4%	2.4%	9.8%	3.8%	2.2%	3.2%	413
15	13.7%	4.6%	4.9%	11.9%	7.7%	5.3%	6.0%	789
16	9.6%	7.5%	2.4%	16.7%	10.0%	7.9%	8.8%	1156
17	19.2%	10.0%	26.8%	15.2%	13.1%	11.6%	11.7%	1539
18	16.4%	14.2%	14.6%	14.1%	17.3%	15.4%	15.2%	1997
19	9.6%	13.6%	12.2%	9.7%	15.5%	16.0%	14.7%	1927
20	5.5%	12.9%	7.3%	6.6%	10.7%	12.7%	11.9%	1563
21	9.6%	10.9%	14.6%	3.2%	7.1%	11.4%	10.0%	1306
22	4.1%	8.1%	7.3%	1.2%	4.7%	7.2%	6.6%	862
23	2.7%	6.7%	2.4%	0.8%	3.4%	4.1%	4.4%	581
24	0.0%	3.6%	2.4%	0.1%	1.2%	2.3%	2.3%	302
25	0.0%	2.0%	0.0%	0.1%	0.8%	1.4%	1.4%	180
26	0.0%	0.5%	0.0%	0.0%	0.1%	0.4%	0.4%	50
27	0.0%	0.5%	0.0%	0.0%	0.3%	0.3%	0.3%	39
28	0.0%	0.2%	2.4%	0.0%	0.0%	0.1%	0.1%	16
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%	11
	0.6%	28.1%	0.3%	8.6%	14.0%	48.8%	100.0%	13109
Mean	17.58	19.26	18.95	16.59	18.19	18.96	18.72	
SD	2.48	2.88	2.70	2.48	2.66	2.64	2.80	
Count*	73	3682	41	1121	1833	6400	13109	

* Number of examinations given to examinees

Table 27
Dental Admission Test
Academic Average by Ethnicity
2022

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%	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%	3
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%	0.1%	0.0%	0.0%	1
10	0.0%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	5
11	1.4%	0.2%	0.0%	0.6%	0.2%	0.1%	0.2%	27
12	2.7%	0.6%	0.0%	2.6%	1.1%	0.5%	0.8%	106
13	1.4%	1.2%	2.4%	5.4%	2.8%	1.0%	1.7%	219
14	8.2%	2.3%	4.9%	10.9%	6.9%	3.1%	4.1%	539
15	8.2%	4.4%	9.8%	14.6%	10.0%	5.6%	6.7%	877
16	15.1%	5.7%	9.8%	15.3%	12.4%	9.7%	9.5%	1243
17	12.3%	9.0%	12.2%	13.3%	13.9%	12.4%	11.7%	1538
18	20.5%	11.8%	19.5%	11.6%	13.4%	13.5%	12.9%	1685
19	9.6%	12.7%	9.8%	9.4%	11.9%	14.5%	13.1%	1722
20	8.2%	12.9%	4.9%	7.0%	9.1%	12.0%	11.4%	1492
21	4.1%	10.3%	9.8%	3.5%	6.5%	9.5%	8.7%	1146
22	4.1%	9.6%	4.9%	3.0%	4.2%	6.7%	6.8%	895
23	2.7%	6.9%	9.8%	1.0%	2.8%	4.6%	4.7%	612
24	1.4%	5.2%	2.4%	1.0%	2.1%	3.0%	3.3%	433
25	0.0%	3.5%	0.0%	0.2%	1.4%	2.0%	2.2%	286
26	0.0%	1.9%	0.0%	0.3%	0.9%	1.2%	1.2%	163
27	0.0%	1.2%	0.0%	0.1%	0.3%	0.5%	0.6%	78
28	0.0%	0.4%	0.0%	0.0%	0.1%	0.2%	0.2%	28
29	0.0%	0.2%	0.0%	0.0%	0.1%	0.0%	0.1%	10
30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
	0.6%	28.1%	0.3%	8.6%	14.0%	48.8%	100.0%	13109
Mean	17.44	19.76	18.39	16.79	17.95	18.93	18.83	
SD	2.68	3.14	2.84	2.73	2.94	2.89	3.07	
Count*	73	3682	41	1121	1833	6400	13109	

* Number of examinations given to examinees

Table 28
Dental Admission Test
DAT scores by Examinees of Hispanic Origin
2022

Score	QRT	RCT	BIO	GCH	OCH	SNS	PAT	AA
1	0.0%	0.0%	0.0%	0.0%	0.4%	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	0.4%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%
9	0.0%	0.0%	0.4%	0.0%	0.4%	0.0%	0.0%	0.0%
10	0.4%	0.0%	0.0%	0.8%	1.9%	0.8%	0.0%	0.4%
11	3.1%	0.0%	2.7%	2.3%	2.3%	0.8%	0.0%	0.0%
12	4.7%	0.8%	2.7%	5.1%	3.5%	3.9%	0.4%	2.7%
13	10.1%	0.4%	7.4%	8.2%	8.6%	6.6%	2.3%	3.5%
14	14.0%	2.3%	6.6%	8.9%	7.4%	10.9%	3.1%	9.3%
15	12.1%	4.3%	12.5%	8.9%	8.9%	10.5%	10.9%	12.5%
16	11.3%	11.3%	12.5%	8.2%	9.7%	12.8%	12.8%	9.7%
17	16.0%	15.6%	12.1%	14.8%	11.3%	9.3%	16.7%	14.8%
18	12.1%	10.5%	14.0%	15.2%	11.3%	13.2%	18.3%	18.7%
19	7.0%	16.7%	10.5%	9.3%	8.2%	13.2%	14.8%	10.9%
20	3.1%	9.7%	6.2%	7.0%	8.2%	9.3%	9.7%	10.5%
21	1.6%	8.6%	5.4%	4.3%	7.8%	5.1%	6.2%	3.9%
22	1.9%	7.4%	4.3%	3.5%	3.9%	1.6%	2.7%	1.6%
23	1.9%	5.4%	0.8%	0.0%	2.7%	0.0%	1.2%	1.2%
24	0.0%	4.3%	1.2%	0.8%	1.6%	0.8%	0.0%	0.4%
25	0.0%	0.4%	0.4%	0.8%	0.4%	0.8%	0.4%	0.0%
26	0.4%	1.9%	0.0%	0.4%	0.4%	0.4%	0.4%	0.0%
27	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%
28	0.0%	0.4%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%
29	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
30	0.0%	0.0%	0.4%	0.0%	0.4%	0.0%	0.0%	0.0%
Mean	16.00	19.00	16.98	16.91	16.96	17.74	16.88	17.12
SD	2.78	2.83	3.03	3.27	3.67	2.26	2.85	2.46
Count*	257	257	257	257	257	257	257	257

* Number of examinations given to examinees

Figure 1
Survey of the Natural Sciences
Biology Content Specifications
(The DAT Biology Test Specifications were updated on January 21, 2022.)
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 and function
- 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
- F. Archaebacteria
- G. Viruses
- H. Integrated relationships

III. Structure and Function of Systems
- A. Integumentary
- B. Skeletal
- C. Muscular
- D. Circulatory
- E. Lymphatic/immune
- F. Digestive
- G. Respiratory
- H. Urinary
- I. Nervous/senses
- J. Endocrine
- K. Reproductive
- L. Integrated relationships

IV. Genetics
- A. Molecular genetics
- B. Human genetics
- C. Classical genetics
- D. Chromosomal genetics
- E. Genetic technology
- F. Developmental mechanism
- G. Genomics
- H. Gene Expression
- I. Epigenetics
- J. Integrated relationships

V. Evolution and Ecology
- A. Natural Selection
- B. Population genetics/speciation
- C. Animal behavior
- D. Ecology (population, community, and Ecosystem ecology)
- E. Integrated relationships

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

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

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_a 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

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

February 2023