

Updates to AP Potential™ Expectancy Tables

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Introduction

AP Potential™ is a data-driven tool that uses SAT Suite of Assessment scores to identify students who are likely to do well on one or more AP Exams. Support for using scores for this purpose is grounded in research that shows that SAT Suite of Assessment scores are strong predictors of AP Exam performance, even stronger than self-reported high school grade point average (HSGPA), grades in related subjects, and total years of study in related subjects (Camara & Millsap, 1998; Ewing, Camara, & Millsap, 2006; Zhang, Patel, & Ewing, 2014a).

As an educational guidance tool, AP Potential is meant to encourage students to participate in the AP Program. This encouragement can have a positive impact on students' opportunities to earn college credit while in high school. Research finds that students who receive a personalized message about their AP Potential on a College Board score report are substantially more likely to enroll in an AP course and pass the AP Exam than students who do not receive the personalized message (Gonzalez, 2017). At the same time, however, AP Potential results should never be used to deny students access to an AP course. Instead, the information represents one piece of information meant to encourage participation among students who may not have considered themselves ready for AP.

Updating AP Potential

AP Potential has been used to identify prospective AP students for more than 25 years. This report provides current AP Potential Expectancy Tables and details for each subject the data that are used in the calculations. For most subjects, AP Potential predictions are derived by using 10th and 11th grade SAT Suite of Assessment scores in one year to predict performance on AP Exams administered the following year in 11th or 12th grade. For AP courses that are commonly taken earlier in high school including Art History, Computer Science Principles, European History, Human Geography, Precalculus, Seminar, and World History, we also include in the calculations scores from the 9th grade SAT Suite of Assessments and 10th grade AP Exam scores along with data score data from later grades.

Correlations between SAT Suite of Assessment Scores and AP Exams

SAT Suite of Assessment scores are strong predictors of AP Exam success. Table 1 shows the correlations between AP Exam scores and the SAT Suite of Assessment Evidence-based Reading and Writing section score (ERW), Math section score, and Total score. Correlation values range from -1.00 (indicating a perfect negative relationship) to +1.00 (indicating a perfect positive relationship) with values close to zero indicating no relationship between variables.

As Table 1 shows, the correlation values for the 27 AP Exams for which AP Potential is reported are all in the moderate to high range. Specific values range from 0.48 for Physics C: E&M to 0.75 for Biology, with most correlations above 0.60. The bolded number in each row indicates the SAT Suite of Assessments score that had the strongest correlation with the corresponding AP Exam score. In most cases, the Total score, which is the sum of ERW + Math section scores, was the strongest predictor of AP Exam performance and was most frequently chosen as the basis for computing the expectancy table, as

indicated in the “predictor” column.¹ The exceptions are Calculus AB which correlated highest with Math section scores and English Language, English Literature, and Art History which correlated highest with ERW scores.²

AP Potential Expectancy Tables

To develop the AP Potential Expectancy Tables, logistic regression models are fitted for each AP Exam by including the most appropriate score from the SAT Suite of Assessments (i.e., Total score, Math section score, or ERW section score) to predict the probability of achieving an AP score of 3 or better. The SAT Suite of Assessment scores associated with specific probabilities of success are calculated for each AP Exam based on the parameter estimates from the logistic regression model. The AP Potential Expectancy Tables show scores associated with achieving a 3 or higher on AP Exams at various probability levels ranging from 10% to 90% in 10% increments (See Table 2).

Using AP Potential Expectancy Tables

To use the expectancy tables to identify students for enrollment in specific AP courses, educators would first locate the cut score associated with a level of probability (or threshold) they are comfortable with for achieving an AP score of 3 or better. For example, if a school chooses the 60% threshold for success on the English Language Exam, the expectancy tables indicate that a student should have a minimum SAT/PSAT ERW score of 470 for achieving a score of 3 or better. Users should keep in mind that the logistic regression models on which the expectancy tables are built involve measurement error. Classification rates are imperfect, meaning that SAT Suite of Assessment scores do not account for all the variability in AP Exam performance, and some uncertainty about the probability of succeeding on AP Exams remains. The actual chance of any individual student succeeding might be lower or higher given many other factors.

Conclusion

AP Potential can be helpful in identifying students for AP courses, especially those students who may not have previously considered AP. This report provides current AP Potential Expectancy Tables as of September 2025. Updates to the expectancy tables may be made periodically on a subject-by-subject basis. The most up-to-date expectancy tables can be found on the College Board’s website.³

¹ When the relationships between Math or ERW section scores and Total scores with AP Exam scores were essentially identical (i.e., African American Studies, Physics 2, Physics C: Electricity and Magnetism, Physics C: Mechanics, and Precalculus), the score that was consistent with other similar AP subjects was chosen as the basis for computing the expectancy tables.

² As in the past, AP Potential is not reported for the AP World Language and AP Studio Art Exams because the correlations do not meet the threshold ($r=0.40$ or higher) required for reporting.

³ <http://www.collegeboard.com/counselors/app/expectancy.html>

References

Camara, W. J., & Millsap, R. E. (1998). Using the PSAT/NMSQT and course grades in predicting success in the Advanced Placement Program (College Board Research Report No. 98-4). New York: The College Board.

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Zhang, X., Patel, P., Ewing, M. (2014a). AP® Potential predicted by PSAT/NMSQT® scores using logistic regression (College Board Statistical Report 2014-1). New York: The College Board.

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Table 1: Correlations between the SAT Suite of Assessment Scores and AP Exam Scores

Subject	Grade-Level (PSAT/SAT)	Total	ERW	Math	Selected Predictor
African American Studies	10/11	0.722	0.726	0.629	Total
Art History	9/10/11	0.497	0.521	0.405	ERW
Biology	10/11	0.752	0.710	0.690	Total
Calculus AB	10/11	0.540	0.418	0.558	Math
Chemistry	10/11	0.655	0.549	0.649	Total
Comparative Gov't and Politics	10/11	0.589	0.588	0.503	Total
Computer Science A	10/11	0.603	0.521	0.584	Total
Computer Science Principles	9/10/11	0.654	0.602	0.615	Total
English Language	10/11	0.725	0.739	0.613	ERW
English Literature	10/11	0.700	0.728	0.584	ERW
Environmental Science	10/11	0.706	0.675	0.634	Total
European History	9/10/11	0.630	0.626	0.545	Total
Human Geography	9/10/11	0.623	0.620	0.535	Total
Macroeconomics	10/11	0.624	0.540	0.609	Total
Microeconomics	10/11	0.632	0.537	0.618	Total
Music Theory	10/11	0.542	0.482	0.527	Total
Physics 1	10/11	0.647	0.545	0.645	Total
Physics 2	10/11	0.590	0.468	0.595	Total
Physics C: E&M	10/11	0.474	0.363	0.478	Total
Physics C: Mechanics	10/11	0.586	0.455	0.592	Total
Precalculus	9/10/11	0.670	0.550	0.670	Math
Psychology	10/11	0.636	0.632	0.553	Total
Seminar	9/10/11	0.540	0.528	0.471	Total
Statistics	10/11	0.697	0.593	0.684	Total
U.S. Gov't and Politics	10/11	0.647	0.637	0.574	Total
U.S. History	10/11	0.675	0.667	0.585	Total
World History	9/10/11	0.676	0.658	0.591	Total

Note. Correlations are calculated using data from the SAT Suite of Assessments administered in the 2017 and 2018 academic years and AP Exams administered 2018 and 2019. Exceptions include African American Studies (SAT Suite of Assessments data from 2023-2024 and AP Exam data from 2025 administration), Physics 2 (SAT Suite of Assessments data from 2023-2024 and AP Exam data from 2025 administration), and Precalculus (SAT Suite of Assessments data from 2022-2023 and AP Exam data from 2024 administration).

Table 2: AP Potential Cut Scores Associated with Scores of 3 or Higher by AP Exam

Subject	Grade-Level (PSAT/SAT)	Predictor	Sample Size	AP Potential Cut Score								
				10%	20%	30%	40%	50%	60%	70%	80%	90%
African American Studies ^e	10/11	Total	12,862	580	650	690	730	770	800	840	890	960
Art History ^a	9/10/11	ERW	36,698	340	410	450	490	520	550	590	630	700
Biology ^b	10/11	Total	110,966	870	930	970	1000	1030	1060	1090	1130	1190
Calculus AB ^d	10/11	Math	202,312	450	490	520	550	570	600	620	660	700
Chemistry ^c	10/11	Total	85,797	800	880	930	970	1010	1050	1090	1150	1220
Comparative Gov't & Politics ^b	10/11	Total	13,325	830	920	970	1020	1060	1110	1150	1210	1300
Computer Science A ^a	10/11	Total	85,611	860	960	1020	1080	1130	1180	1230	1300	1390
Computer Science Principles ^c	9/10/11	Total	45,640	790	870	930	970	1010	1060	1100	1160	1240
English Language ^e	10/11	ERW	377,684	350	380	410	430	450	470	490	510	550
English Literature ^e	10/11	ERW	313,821	370	410	440	460	480	500	520	550	590
Environmental Science ^e	10/11	Total	156,423	790	850	890	930	960	990	1020	1060	1120
European History ^d	9/10/11	Total	36,275	700	790	850	900	940	980	1030	1090	1180
Human Geography ^e	9/10/11	Total	39,843	700	770	820	860	900	930	970	1020	1090
Macroeconomics ^c	10/11	Total	113,614	840	930	990	1040	1080	1130	1180	1240	1330
Microeconomics ^c	10/11	Total	62,431	820	910	970	1020	1070	1120	1170	1230	1320
Music Theory ^a	10/11	Total	25,549	720	840	920	990	1050	1110	1170	1250	1370
Physics 1 ^e	10/11	Total	111,049	840	920	970	1020	1060	1100	1150	1200	1280
Physics 2 ^e	10/11	Total	17,497	860	960	1020	1070	1120	1170	1220	1280	1380
Phys C: E&M ^e	10/11	Total	24,596	900	1010	1090	1150	1200	1260	1320	1390	1500
Physics C: Mechanics ^e	10/11	Total	51,914	910	1000	1060	1110	1160	1210	1260	1320	1410
Precalculus ^d	9/10/11	Math	114,216	360	390	420	440	460	470	490	520	550
Psychology ^e	10/11	Total	190,054	740	810	860	900	940	970	1010	1060	1140
Seminar ^a	9/10/11	Total	45,919	590	690	750	810	850	900	960	1020	1120
Statistics ^a	10/11	Total	342,715	940	1010	1060	1100	1140	1170	1210	1260	1330
U.S. Gov't and Politics ^d	10/11	Total	228,840	760	840	880	930	960	1000	1040	1090	1160
U.S. History ^d	10/11	Total	270,194	730	800	850	880	920	950	990	1030	1100
World History ^b	9/10/11	Total	60,955	760	830	880	920	960	990	1030	1080	1150

Note. Cut scores for AP Exams are calculated using data from the first SAT Suite of Assessment administered during the grade listed on the table and AP Exams administered in the following academic year.

^a SAT Suite of Assessments administered in 2016-2017 and 2017-2018 academic years and AP Exams administered in 2018 and 2019

^b SAT Suite of Assessments administered in 2020-2021 academic year and AP Exams administered in 2022

^c SAT Suite of Assessments administered in 2021-2022 academic year and AP Exams administered in 2023

^d SAT Suite of Assessments administered in 2022-2023 academic year and AP Exams administered in 2024

^e SAT Suite of Assessments administered in 2023-2024 academic year and AP Exams administered in 2025