



CollegeBoard

Advanced Placement
Program

AP[®] and Higher Education





The College Board: Connecting Students to College Success™

The College Board is a not-for-profit membership association whose mission is to connect students to college success and opportunity. Founded in 1900, the association is composed of more than 4,500 schools, colleges, universities, and other educational organizations. Each year, the College Board serves over three million students and their parents, 23,000 high schools, and 3,500 colleges through major programs and services in college admissions, guidance, assessment, financial aid, enrollment, and teaching and learning. Among its best-known programs are the SAT®, the PSAT/NMSQT®, and the Advanced Placement Program® (AP®). The College Board is committed to the principles of excellence and equity, and that commitment is embodied in all of its programs, services, activities, and concerns.

For further information, visit www.collegeboard.com.

AP Equity Policy Statement:

The College Board and the Advanced Placement Program encourage teachers, AP Coordinators, and school administrators to make equitable access a guiding principle for their AP programs. The College Board is committed to the principle that all students deserve an opportunity to participate in rigorous and academically challenging courses and programs. All students who are willing to accept the challenge of a rigorous academic curriculum should be considered for admission to AP courses. The Board encourages the elimination of barriers that restrict access to AP courses for students from ethnic, racial, and socioeconomic groups that have been traditionally underrepresented in the AP Program. Schools should make every effort to ensure that their AP classes reflect the diversity of their student population.

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The Origins of AP®

Two separate alliances formed between representatives of secondary schools and higher education institutions brought about educational initiatives that led to the founding of the AP Program.

In May 1951, a group of educators from three elite preparatory schools—Andover, Exeter, and Lawrenceville—and three of the country's most prestigious colleges—Harvard, Princeton, and Yale—met at Andover to discuss the best use of the last two years of high school and the first two years of college. Led by English teacher Alan R. Blackmer of Andover, the committee published a final report, *General Education in School and College*, through Harvard University Press in 1952. The report urged schools and colleges to work together as part of a continuous process, to see themselves as “two halves of a common enterprise.” It recommended that secondary schools recruit imaginative teachers, that they encourage seniors to engage in independent study and college-level work, and that achievement exams be used to allow students to enter college with advanced standing.

At the same time, the Kenyon Plan was being formulated by a committee of representatives from 12 colleges and 12 secondary schools organized by Kenyon College President Gordon Keith Chalmers. The colleges participating in the Kenyon Plan focused on the liberal arts and included Bowdoin, Brown, Carleton, Haverford, Kenyon, MIT, Middlebury, Oberlin, Swarthmore, Wabash, Wesleyan, and Williams. This Committee on Admission with Advanced Standing called for developing college-level curricula and standards that could be instituted at the high school level.

Following the recommendations of both reports, and with funding from the Ford Foundation's Fund for the Advancement of Education, the Kenyon Committee recruited faculty leaders in each academic discipline and took on the challenge of developing high school course descriptions and assessments that the 12 colleges would find rigorous enough to use as a basis for granting credit. In 1952, they launched a pilot program involving seven high schools and introducing advanced courses in 11 initial subjects.

Introduction

For nearly 50 years, higher education academic faculty have worked with secondary schools and the College Board in a unique partnership: the Advanced Placement Program® (AP®). Throughout its history, the AP Program has relied on the initiative, participation, and guidance of higher education institutions to fulfill its goal of facilitating the transition of high school students into a successful college experience.

College and university faculty members play a vital role in every stage of development of an AP course and exam. Each AP subject discipline has its own Development Committee—composed of college and university professors and experienced AP teachers—which is responsible for creating the course curriculum and exam questions. College and university faculty members also serve as Chief Readers, responsible for establishing the exam-scoring rubric and overseeing the annual AP Reading for their academic disciplines.

This booklet has been designed to provide information about the AP Program, including the results of a recent research study on AP student performance and guidelines for setting an AP credit and placement policy. It provides resources and information for you to use in establishing your institution's AP policy, and also gives an overview of how AP courses and exams are developed and scored, with an emphasis on the role college and university faculty play throughout the process.

In 2003, over one million students took AP Exams in 19 subject areas at over 14,000 high schools worldwide. Over 3,000 colleges and universities, including many international institutions, accepted qualifying AP Exam grades from those students for credit, placement, or both. The remarkable growth of the Program over the past half-decade demonstrates that high school students have embraced the vision of AP and seized the opportunity to study and learn at a higher level. For those students, a challenging program of study carries benefits into the college years. In fact, a recent Department of Education study reports that a secondary school curriculum of high academic intensity and quality—such as that found in AP courses—has a more significant effect on bachelor's degree completion than more traditional academic measures, such as grade point average or class rank.¹ This important study emphasizes the vital correlation between secondary and postsecondary curricula, and how AP works to successfully bridge the two.

With vastly increasing student enrollments projected for the coming decades, particularly among minority groups, the AP Program can uniquely serve the higher education community by preparing students for college-level work and providing a valuable assessment tool for placing students at the appropriate level in college.²

To learn more about how AP can support your students and your higher education institution's mission, contact your College Board Regional Office.

“Completing AP courses is one way applicants demonstrate a willingness to accept academic challenges. Strong grades and high test scores certainly demonstrate preparation for college.”

Lori Goldman
Director of Admissions and New Student Enrollment
University of Arizona

1. Clifford Adelman, *Answers in the Tool Box: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment* (Washington, D.C.: U.S. Department of Education, 1999).

2. Western Interstate Commission for Higher Education, *Knocking at the College Door: Projections of High School Graduates from 1988 to 2018* (Boulder, CO: Western Interstate Commission for Higher Education, 2003).

Why Do Colleges and Universities Value AP?



AP Policies Attract Motivated Students

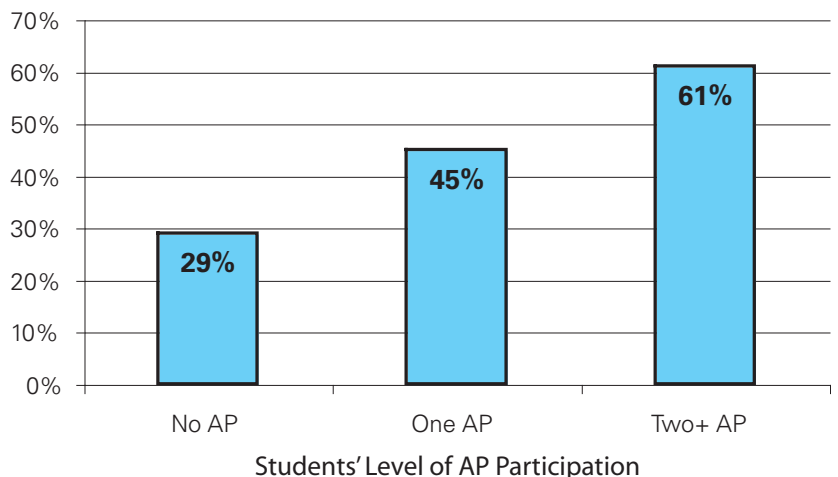
Having a clear and equitable AP policy enables colleges and universities to attract a diverse group of motivated high school students. AP courses teach students important skills that can lead to college success: how to read texts critically, how to solve problems analytically, and how to write clearly. One of the most important criteria college admissions officials use to evaluate applicants for an incoming class is the quality and intensity of their high school course work. The presence of AP courses in students' transcripts often indicates that they have availed themselves of the opportunity to take the most rigorous courses available.

“I have always found students with AP backgrounds easy to identify in a college classroom. They usually have a better understanding of historical evidence and how to evaluate various types to form organized, coherent arguments. They have had good experience working with document types and have a sense of historical interpretations, as well as how to read critically.”

Michael Galgano, Chair, AP European History Development Committee
Professor of History
James Madison University

Additionally, students who take AP courses and exams are much more likely than their peers to complete a bachelor's degree in four years or less. (See Figure 1.)³

Figure 1. Percentage of Students Earning a Bachelor's Degree in Four Years or Less



3. Wayne Camara, “College Persistence, Graduation, and Remediation,” *College Board Research Notes RN-19* (New York: College Entrance Examination Board, 2003).

Reasons Students Participate in AP

A recent survey of 2,598 high school seniors who had received a 3 or better on select AP Exams asked questions about the students' reasons for taking AP courses, and the intended uses of the AP Exam grades in college.* Here are some of their responses:

- 83 percent of the students reported that they took AP courses to improve their chances of getting into the college they wanted
- Over two-thirds reported that they took AP courses in order to get into advanced classes earlier
- Over half took AP courses in order to make time to take more electives in college
- Less than a third indicated that they hoped to use credit from AP Exams to graduate from college sooner

* Karen Christman Morgan, *The Use of AP Examination Grades by Students in College* (New York: RoperASW, 2002).

AP Serves Underrepresented Minority and Low-Income Students

The College Board has been working diligently to provide all students with the opportunity to take a rigorous high school curriculum by expanding access to AP—especially to those students traditionally underrepresented because of race, ethnicity, socioeconomic status, or geography. (See Figure 2.) By 2003, underrepresented minority participation (African American, Latino, and Native American/Alaskan native students) in AP rose to 16.2 percent of all those who took an AP Exam. AP participation among traditionally underserved student populations is increasing at rates greater than the growth of AP participation overall.

To help colleges and universities find and recruit minority students who have participated in AP courses and exams, the College Board provides a Student Search Service®. This service provides college admissions officials with mailing lists defined by various factors—including ethnicity—from the nearly three million students who have taken College Board entrance and placement exams. For more information, visit www.collegeboard.com/highered/ra/sss.html.

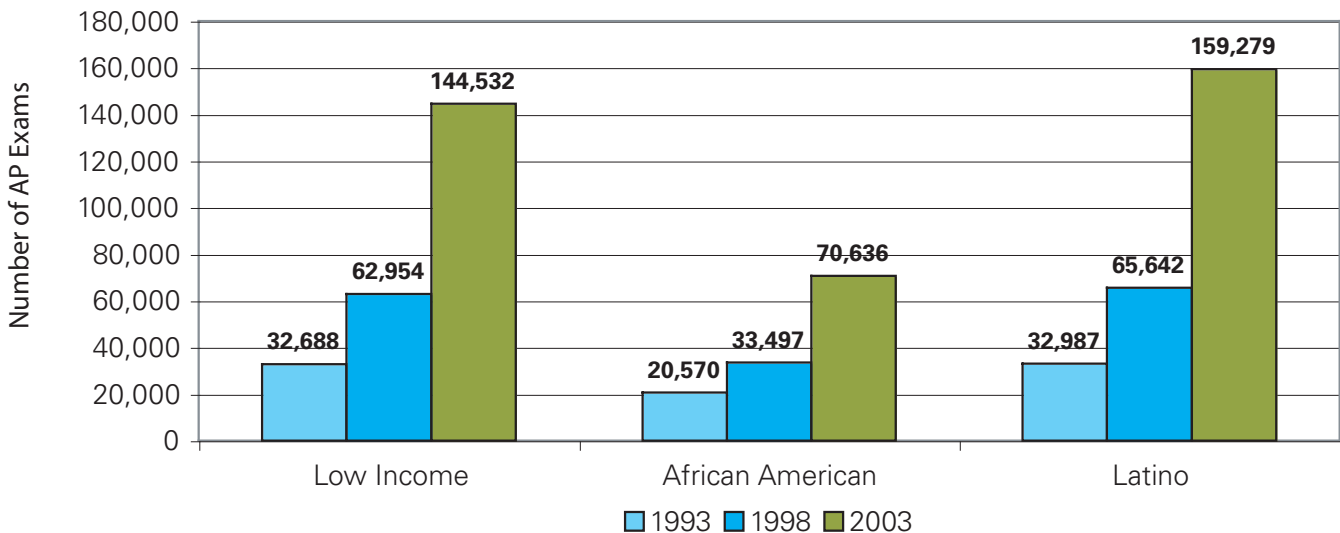
AP Students Are Well Prepared for Success in College

Research studies show that students who do well on an AP Exam are academically prepared to place out of a corresponding introductory college course and move on to the next higher-level course. One forthcoming study reveals that a group of AP students whose AP Exam grades exempted them from introductory-level college courses performed as well or better in upper-level courses than their peers who were non-AP students and who first completed introductory courses. These same students were also more likely to receive a grade of A or B in a higher-level course than their non-AP peers.

“ One of the best standard predictors of academic success at Harvard is performance on AP Examinations. ”

William R. Fitzsimmons
Dean of Admissions and Financial Aid
Harvard University

Figure 2. United States Public Schools AP Participation: Underserved Students



“ At Colgate University we have found that AP Computer Science students are very well prepared and do well in the courses that follow our introductory sequence. Often they are among our best students.”

Chris Nevison, Chief Reader, AP Computer Science Development Committee
Professor of Computer Science
Colgate University

AP Students Pursue Disciplinary Interests Cultivated in AP

Students who receive advanced placement or college credit typically continue to take more, not fewer, courses in the discipline for which they've received AP credit.

A 2000 research study found:⁴

- Students who took the AP Exam (for all but three exams) were more likely to take a course in the same discipline than students who did not take the AP Exam.
- Many students completed their college degree in the subject area of the AP Exam.
- Those students who took AP Biology, Physics, Calculus, Studio Art, and Spanish Literature were most likely to major or minor in those disciplines or a closely related discipline.

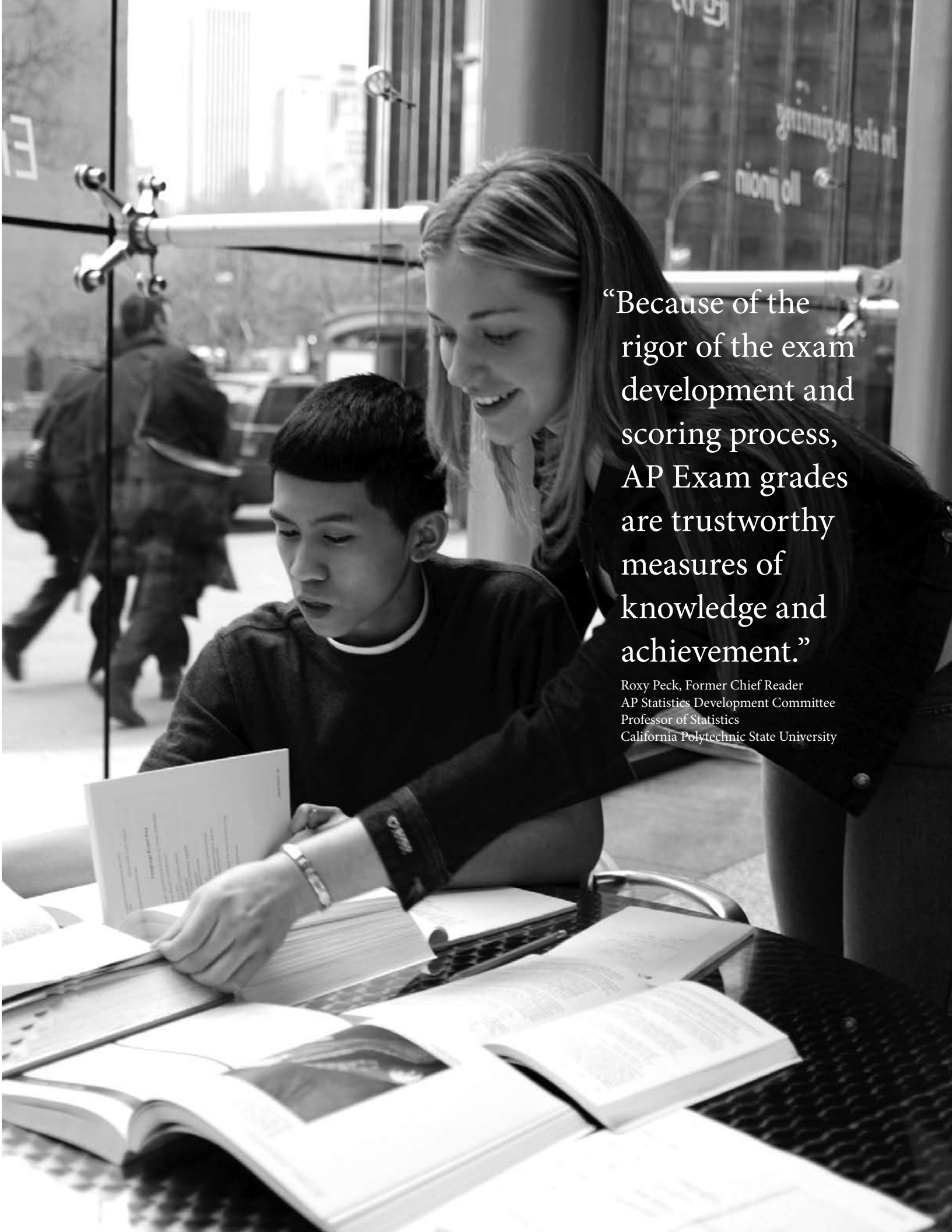
The study showed, for example, that AP Biology students took, on average, 3.3 courses in that discipline in college, whereas non-AP Biology students took, on average, 1.9 courses. For more specialized subject disciplines, such as Music Theory, Studio Art, Physics, or French or Spanish Literature, the differences between numbers of courses taken for the AP and non-AP groups were even greater.

The study also found that the majority of students who took AP Exams graduated in at least four years and had a grade point average above 3.0.

“ At Davidson College, the students who have succeeded well in AP courses while in high school form the core of our highly selective student body. Their AP success serves as an effective placement tool here at Davidson that rarely disappoints us. In economics, students with high AP scores seem to move seamlessly into more advanced courses.”

Clark Ross, Chief Reader, AP Economics Development Committee
Vice President for Academic Affairs and Dean of Faculty
Johnston Professor of Economics
Davidson College

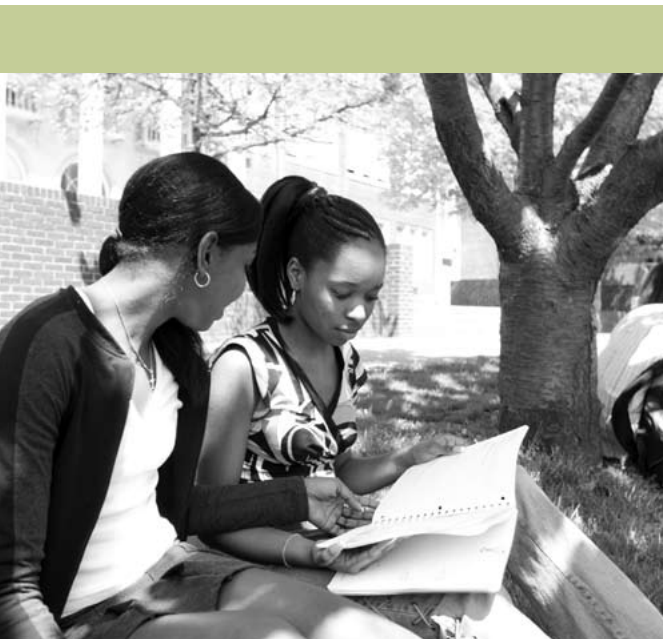
4. Rick Morgan and Behroz Maneckshana, *AP Students in College: An Investigation of Their Course-Taking Patterns and College Majors* (Princeton, N.J.: Educational Testing Service, 2000).



“Because of the rigor of the exam development and scoring process, AP Exam grades are trustworthy measures of knowledge and achievement.”

Roxy Peck, Former Chief Reader
AP Statistics Development Committee
Professor of Statistics
California Polytechnic State University

Establishing Your Institution's AP Policy



AP Credit Policy Info on the Web

Information about AP credit and placement policies at hundreds of colleges and universities is now available on the College Board's Web site at www.collegeboard.com/ap/creditpolicy.

The AP Credit Policy tool permits users to search by institution or browse by letter of the alphabet to find out more about a particular institution's AP policies. For most participating institutions, users will find a link to the college or university's own Web page detailing credit and placement policies, as well as a statement on the institution's general policy and philosophy regarding AP, including some comment upon the role of AP in the admissions process.

This tool serves as an invaluable resource for college-bound AP students; colleges and universities can use the search as both an informational and recruitment tool, as it leads student users directly to college or university Web sites.

Add Information about Your Institution's AP Policies

The AP Program encourages all higher education institutions to add or update policy information that appears in the AP Credit Policy tool.

Visit: apcentral.collegeboard.com/highered

What Is an AP Policy?

Each college and university determines its own policies regarding AP, which may include granting credit, advanced placement, or both. Granting credit reduces the number of credit hours required for graduation, while awarding advanced placement allows a student to place out of the introductory course that is comparable to the AP course and move directly into the next, higher-level course. Frequently, a qualifying AP Exam grade can also fulfill university distribution or departmental requirements, such as a composition or a foreign language requirement.

The Importance of Having an AP Policy

A clearly stated AP policy that allows students who perform well on AP Exams to place out of introductory courses and/or fulfill distribution requirements, helps students move directly to material at their level and identify their academic interests. In most cases, AP students who place out of an introductory course tend to take more courses in that particular discipline than students who do not take the AP Exam.⁵ Advanced placement and credit for qualifying AP Exam grades also give students more flexibility in their college curriculum, making it possible to pursue honors programs, double-majors, and study-abroad programs.

How to Set an AP Policy

Each college or university must decide what evidence is sufficient to demonstrate that the student has satisfied one or more of its course requirements. The College Board recognizes that different institutions will set different policies, based upon factors unique to their institution and student body. Colleges and universities should rely on research and data, familiarization with the AP curricula and examinations, and their own internal studies in determining what AP Exam grades will be required for advanced placement or credit to be granted. Some colleges and universities appoint special committees to set AP policy for the entire institution, others leave the credit and placement policies up to individual academic departments.

Here are four common options for refining or establishing your institution's AP policies; institutions frequently use one or more options to establish a policy.

Option 1: Understand What an AP Exam Grade Represents

The AP Program takes steps to verify that AP courses are similar in curricular content to introductory-level college courses and AP Exam grades correspond to specific levels of college achievement. Each AP Development Committee periodically conducts a curriculum survey of college and university faculty members who teach introductory-level college courses in order to appropriately revise and refine the AP course content as outlined in the Course Description booklet and as assessed on the AP Exam.

Additionally, the AP Program conducts college comparability studies that help align the AP exam-scoring rubric to actual grades received by students in introductory-level college courses. These studies compare the performance of AP students on the AP Exam to the performance of college students who take portions of the AP Exam at the conclusion of the comparable college-level course, and are used to link AP standards to higher education standards.

5. Rick Morgan and Behroz Maneckshana, *AP Students in College: An Investigation of Their Course-Taking Patterns and College Majors* (Princeton, N.J.: Educational Testing Service, 2000).

AP Grades

Grade	Meaning
5	Extremely well qualified
4	Well qualified
3	Qualified
2	Possibly qualified
1	No recommendation

Option 2: Use Data on the Performance of AP Students in College

The AP Program regularly conducts research studies to assess whether AP students perform as well as, or better than, their non-AP peers in higher-level college courses. The most recent study analyzed college grades of over 72,000 college students at 20 different colleges from the fall of 1996 to the summer of 2001. Overall research on AP student performance has shown that:

- Students who receive AP Exam grades of 3, 4, or 5, and bypass introductory courses, perform as well or better in upper-level courses than non-AP students who first complete introductory courses.
- For most AP subjects, students who receive a 3, 4, or 5 on the AP Exam are more likely to receive an A or a B in a higher-level course than their non-AP peers.

See pages 8–9 for more information about this study.

Option 3: Base Your Policy on External Recommendations

The American Council on Education (ACE), a national accrediting organization, recommends, as a general rule, that colleges and universities award credit for AP grades of 3, 4, and 5 on any AP Examination. ACE notes that the practice of granting provisional credit for a grade of 2 is becoming more frequent because comparability studies have shown that many of these students are potentially qualified for college-level work—credit is made permanent if the student satisfies another criterion, such as successfully completing the next course in the discipline. The recommended minimum number of semester hours of credit from ACE corresponds to the scope and content of the equivalent AP course.

Option 4: Review AP Curricula and AP Exams

Review AP curricula and exam questions to gauge the level of content mastery required and its relation to your institution's requirements.

For each AP course there is an official AP Course Description as well as released exam questions. Both are available at AP Central® at apcentral.collegeboard.com/ /higher.

ACE Recommendations

AP Examination	Minimum Grade for Awarding Credit	Number of Semester Hours
Art History	3	6
Biology	3	8
Calculus AB	3	3 to 4
Calculus BC	3	6 to 8
Chemistry	3	8
Computer Science A	3	3 to 4
Computer Science AB	3	6 to 8
Economics: Macro	3	3
Economics: Micro	3	3
English Language and Composition	3	6
English Literature and Composition	3	6
Environmental Science	3	4
European History	3	6
French Language	3	6 to 8
French Literature	3	6 to 12
German Language	3	6 to 8
Government & Politics: Comparative	3	3
Government & Politics: United States	3	3
Latin: Vergil	3	6 to 8
Latin Literature	3	6 to 8
Music Theory	3	6
Physics B	3	6 to 8
Physics C: Mechanics	3	4
Physics C: Electricity and Magnetism	3	4
Psychology	3	3
Spanish Language	3	6 to 8
Spanish Literature	3	6 to 12
Statistics	3	3
Studio Art: Drawing	3	6
U.S. History	3	6

Note: The first administration of the AP Exams in Human Geography and World History occurred after the most recent ACE review and so are not included in the ACE recommendations. ACE's next comprehensive evaluation will occur in 2005.

GPA in Upper-Level College Courses: AP-Takers vs. Non-AP

AP Exam	AP Students Who Bypass Intro. Course			Students Who Complete Intro. Course
	AP 5	AP 4	AP 3	No AP Grade Submitted for Course
Biology	3.41	2.98	2.68	2.65
Calculus AB	3.29	2.95	2.60	2.47
Calculus BC	3.54	3.34	3.11	2.51
Chemistry	3.75	3.38	3.02	2.57
Computer Science A	3.06	3.02	3.14	2.67
Computer Science AB	3.23	3.17	3.17	2.64
English Language	3.52	3.52	3.51	3.09
English Literature	3.43	3.44	3.38	3.07
French Language	3.84	3.47	3.43	3.09
Physics B	3.36	2.86	2.82	2.66
Physics C: Electricity & Magnetism	3.94	3.61	3.17	2.68
Physics C: Mechanics	3.59	3.06	2.81	2.66
Psychology	3.63	3.37	3.22	2.92
Spanish Language	3.88	3.74	3.73	3.05
U.S. Government & Politics	3.23	3.06	3.03	2.81
U.S. History	3.62	3.25	2.94	2.71

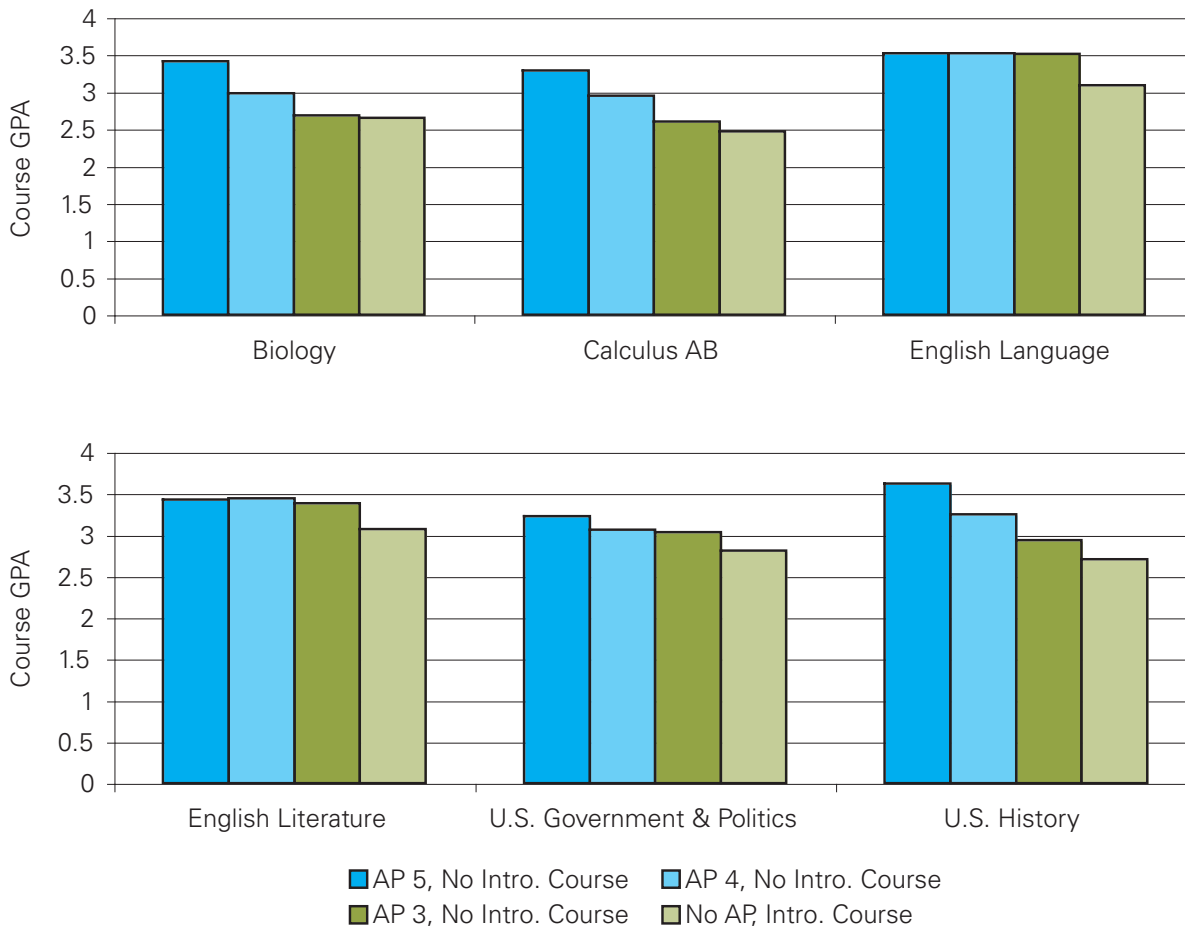
This recent study found that AP students with grades of 4 and 5 on AP Exams earned high grades in a higher-level course after being placed out of the introductory course. Students with AP grades of 3 that placed out of the introductory course generally achieved course grade point averages better than a 3.0 in a higher-level course, and more often than not had course grade averages higher than non-AP students in those courses who had taken the introductory course. The published research report will be available on AP Central in 2005. The study replicated and expanded upon an earlier one (1998) that similarly looked at college performance of AP and non-AP students in upper-level courses at 21 colleges and universities. The 1998 research study is available as a free PDF download on the “AP Research” page at AP Central.*

* Rick Morgan and Len Ramist, *Advanced Placement Students in College: An Investigation of Course Grades at 21 Colleges* (Princeton, N.J.: Educational Testing Service, 1998).

“AP success serves as an effective placement tool.”

Clark Ross, Chief Reader, AP Economics Development Committee
 Vice President for Academic Affairs and Dean of Faculty
 Johnston Professor of Economics
 Davidson College

GPA in Upper-Level College Courses: Top Six AP Subjects By Volume



The six AP subjects in the above chart represented nearly 60 percent of all AP Exams taken in 2003.

Participating Colleges

Only four-year colleges and universities with a high number of enrolled students who participated in the AP Program were included in this study. The institutions were chosen with an eye toward creating a representative mix according to their geography, selectivity, and institutional type, and included:

- | | | |
|--|-----------------------------------|-------------------------------|
| Brigham Young University | University of California, Davis | University of Texas at Austin |
| Carnegie Mellon University | University of Florida | University of Washington |
| The College of William and Mary | University of Illinois | Wesleyan University |
| George Washington University | University of Iowa | Williams College |
| Georgia Technical University | University of Maryland | |
| Miami University of Ohio | University of Miami | |
| North Carolina State University | University of Southern California | |
| State University of New York at Binghamton | University of Virginia | |

Development of AP Courses

Course Descriptions

Each Development Committee drafts a Course Description booklet that discusses the content of the AP course and the material evaluated on the exam. The booklet explains the course objectives and content, and provides sample exam questions. Course Description booklets are available free-of-charge as PDF downloads from AP Central at apcentral.collegeboard.com/highered.



AP Development Committees

The AP course curricula are developed by AP Development Committees composed of an equal number of college and university academic faculty and experienced AP high school teachers for each subject field—usually six or eight in total. The committee members are representative of the wide range of secondary and postsecondary institutions from all regions of the country, and a diversity of knowledge and perspectives in their fields. They bring to their tasks knowledge of the curricula and instructional materials in their fields, as well as a honed sense of the abilities and skills critical in a given subject, and how students can demonstrate the mastery of such skills.

There are a total of 22 Committees for the 34 different AP Exams. These Committees meet usually three times a year to discuss and develop the curriculum and the AP Exam questions. The Chief Reader, a college or university faculty member who oversees the annual Reading of the free-response section for that exam, also attends each committee meeting. Additionally, two AP content experts work with each Committee, making a total of about 10 individuals attending each committee meeting.

AP content experts are proficient in curriculum assessment—most hold advanced degrees in the field of their assigned Committee and many are former college professors or high school teachers. Other AP staff members provide support and resources for the Committees through their special expertise in measurement and statistics, publications, research, or questionnaire design.

The Development Committees guide and review the considerable research and data analysis undertaken to make certain that the AP Course Descriptions and exam questions adhere to high academic disciplinary standards for proficiency and excellence. Additionally, the Committees seek to be active participants in the debates around curricular innovation and reform within their fields of expertise.

Roles and Responsibilities of Committee Members

Development Committee members plan, develop, and approve each AP Exam. Their specific responsibilities include: determining the general content of the exam and the ability level that is being tested, writing and reviewing exam questions, and giving final approval for the exams. Development Committees frequently make use of curriculum surveys sent to college and university faculty to align the AP curriculum with that of higher education institutions.

They also review and write descriptive materials for AP students, high schools, and colleges, such as the Course Description and Released Exam booklets. They participate in outreach efforts by making presentations about their experience working with AP at academic and professional conferences.

Development of AP Exams

Each AP Exam consists of two sections—multiple-choice and free-response. Free-response questions can take the form of essays or problems to solve. With slight variances for each AP Exam, equal weight is generally given to each section in the exam-scoring process.

Multiple-Choice Questions

Multiple-choice questions are written solely by college faculty who teach the college courses that correspond to the AP course. AP content experts make sure that the questions adhere to the highest standards of quality and fairness in test development, as well as to certain editorial and stylistic standards. Statistical specifications are developed to ensure that each AP Exam will be of appropriate difficulty for the test-taking population and that each exam will distinguish among students with different levels of knowledge, skills, and abilities. Reusing a percentage of multiple-choice questions from prior exams guarantees the statistical reliability of each AP Exam from year to year.

Free-Response Questions

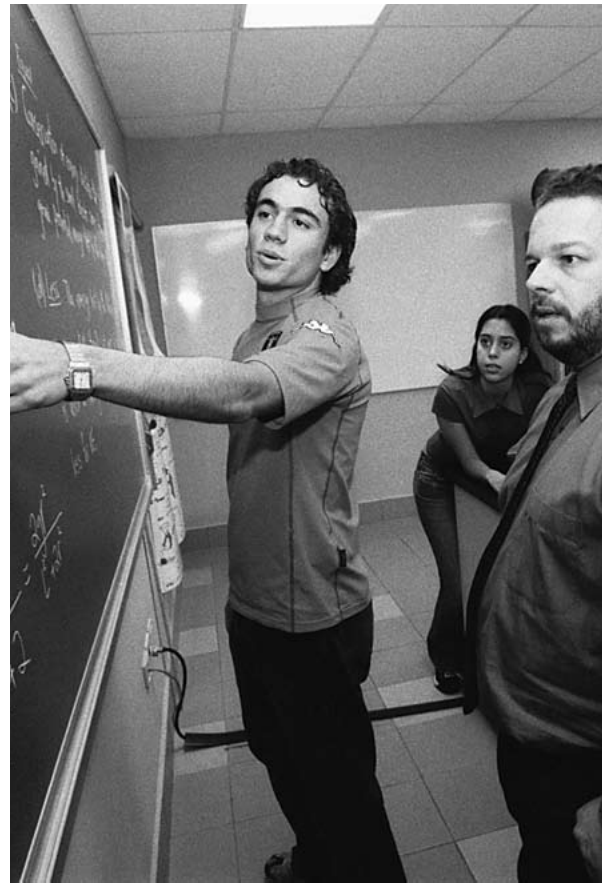
Most free-response questions come from Development Committee members. They create a pool of proposed questions, the best of which are refined and focused to ensure that students are presented with ample opportunity to demonstrate their knowledge. In analyzing the proposed free-response questions, committee members and content experts consider issues such as:

- How should we expect a student to respond to the question?
- What knowledge and abilities do we want the students to demonstrate in their answers?
- Is it likely that the question will do what it is intended to do?
- Could the question be better framed in the multiple-choice format?

Once a question is chosen for inclusion in an exam, it goes through several rounds of review and revision by the Committee, typically taking up to two years. Each free-response question on an AP Exam is unique and used only once.

“When I have shown free-response questions to my faculty colleagues, their typical response is that the free-response questions would be more suitable to biology majors in more advanced classes rather than for our introductory biology students. There is no doubt in my mind that AP Biology’s free-response questions are extremely challenging, and that students who do well on the AP Biology Examination know a lot about biology.”

Robert Cannon, Chair, AP Biology Development Committee
Professor of Biology
University of North Carolina at Greensboro



“The new AP Comparative Government and Politics curriculum reflects contemporary developments in higher education. In redesigning the curriculum, the Development Committee had wide input from a survey of college and university instructors who taught the introductory comparative course as well as from a specially convened group of prominent specialists in the field.”

Donley T. Studlar, Former Member,
AP Government and Politics Development
Committee
Eberly Family Distinguished Professor of
Political Science
West Virginia University



Putting It All Together

The Development Committee reviews the final draft of each exam, judging it on the merits of the individual questions and the exam as a whole. Each exam must meet predetermined content and statistical specifications, and also have a coherence and internal consistency that reflects its purpose of assessing the students' preparation in the subject. In putting its stamp of approval on the final version of the exam, the Committee indicates that each question is appropriate and unambiguous, that all the members agree about the correct answer for each multiple-choice question, and that the exam as a whole is a suitable measure of the prescribed Course Description.

“The best part of working on the Development Committee and reading the AP Exams is learning how to write effective free-response questions. Most teachers write essay questions that are subjective and consequently student work is difficult to compare. The AP free-response questions provide models for college and AP teachers to use as they hone their assessment skills.”

Dave Lanegran, Former Chair, AP Human Geography Development Committee
John S. Holl Professor of Geography
Macalester College

After the exam has been administered, all of the free-response questions are released and made available to the public through AP Central. Sample student responses at various levels of achievement are also posted.

“I have enjoyed immensely my collaborations with colleagues on the AP Music Theory Development Committee—the interactions and participations have been engaging as well as informative, and I have learned that there is much to be achieved through teamwork, respect, and genuine academic camaraderie.”

Harvey Stokes, AP Music Theory Development Committee
Professor of Music
Hampton University

Released Exams

Every few years, an AP Exam for each subject is released in its entirety as a printed publication. The released exam includes a detailed discussion of the scoring procedure and rubric, as well as sample free-response answers to illustrate different levels of achievement on the AP Exam. The released exam describes how the free-response answers are evaluated and how the final AP grade is determined.

Free-response questions and sample written responses at different levels are also available online on AP Central at apcentral.collegeboard.com/highered.

Scoring of AP Exams: The AP Reading

Multiple-choice exam questions are scored by computer, according to a scale that awards one point for each correct answer, and deducts one-quarter of a point for each wrong answer for five-choice test items, and one-third of a point for four-choice test items. This type of scoring is appropriate for tests where students are not expected to have mastered all of the material that might be tested.

Scoring the free-response portions of AP Exams is a complex, collaborative process that involves thousands of different AP Exam Readers. Readers gather every June at various locations throughout the country to evaluate over five million essays, solutions to extended problems, audiotaped responses, and Studio Art portfolios. The Chief Reader—always a college or university faculty member—is responsible for making sure that each exam is graded fairly and consistently. This involves selecting the Reading leadership and Readers, developing scoring standards for free-response questions, overseeing the entire scoring process at the AP Reading, and determining the scale for converting raw scores into AP grades.

Reading Leadership

Chief Readers typically have attended the annual Reading for many years, and have experience in the different positions of leadership at the Reading, including Exam, Question, and Table Leaders. Table Leaders are appointed by the Chief Reader and have generally already served as Readers for several years. Table Leaders train the Readers and monitor the progress and reliability of the Readers under their supervision. Appointed by the Chief Reader, Question and Exam Leaders have generally served for several years as Table Leaders. In large-volume subjects, a Question Leader supervises the Readers' scoring of a particular free-response question. In some subjects with two exams, an Exam Leader supervises the scoring of one of the exams. These Reading Leaders help the Chief Reader develop the scoring standards and train the Table Leaders on how to apply them.

Readers

All AP Readers are either AP teachers currently teaching the subject or higher education faculty who have recently taught the comparable college-level course, with an equal mix of Readers from each group. Readers are carefully selected to ensure an appropriate balance among several factors including school locale and setting, gender, race, ethnicity, and years of teaching experience.

Development of Scoring Standards

The Development Committee begins the process of creating scoring guidelines by suggesting preliminary scoring standards for each free-response question they have written. In the few days prior to the Reading, Reading Leaders and AP content experts meet at the Reading site to review and test the guidelines by reading and scoring randomly selected student papers, refining and finalizing the scoring guidelines in the process. A subset of these randomly selected papers is chosen for use in training the Readers.

“ Writing good free-response questions in music is challenging because, to ensure that scores are distributed properly among students of differing abilities, the questions have to allow students to succeed and fail at different points. For those questions that involve listening skills—melodic and harmonic dictation, as well as sight-singing—it means the difficulty factors have to be carefully chosen and positioned within the item. It is not unusual for the Committee to spend an hour tweaking a melody so that it has just the right balance and placement of difficulty factors, while remaining musically satisfying. The moment it all comes together is often accompanied by smiles and sighs of satisfaction.”

Eric J. Isaacson, Former Chair, AP Music Theory Development Committee
Associate Professor and Chair of Music Theory
Adjunct Associate Professor of Informatics
Indiana University, Bloomington

How to Become a Reader

Join the talented group of educators who gather each year to serve as Readers at the AP Reading. Information about how you can apply to be a Reader can be found at apcentral.collegeboard.com/highered.



Training of Readers

Table Leaders conduct a thorough training session for each free-response question with the Readers before the scoring begins. This ensures that the Readers are all using the same standard, and it provides the opportunity to further refine the scoring guidelines as necessary. In these training sessions the Readers first review the scoring guidelines and then read sample prescored papers selected by the Reading leadership. These sample responses reflect all levels of ability. After discussing the scores for the samples, the Readers then read another group of preselected responses whose scores are not revealed to the Readers. Groups of Readers determine collectively what score should be assigned, which is then compared to the score given by the Reading Leaders. This process is repeated several times, with responses that represent a wide range of possible and problematic responses. Scores and differences in judgment are discussed until agreement is reached, with the Question Leaders, Table Leaders, or the Chief Reader acting as arbitrator when needed. Once a team has shown consistent agreement on its scores, its members proceed to score individually. Readers are encouraged to seek advice from one another, the Table and Question Leaders, or the Chief Reader when in doubt about a score. A student response that is problematic receives multiple readings and evaluations.

“The Reading is truly a unique experience. I get to spend seven days with people who care just as much about student learning as I do. It really doesn’t matter what level you teach at, high school or college. We share favorite ideas for demonstrations and lab experiments. The exchanges that take place over snacks, meals, and evenings are useful and also build friendships that last throughout the year. The focus on grading the exams pulls us together with a common sense of purpose that is never achieved at a professional society meeting.”

Gay Stewart, Former Chair, AP Physics Development Committee
Associate Professor and Vice Chair, Department of Physics
University of Arkansas, Fayetteville

Checks and Balances

Various steps are taken to ensure fair and consistent scoring. The student’s identification information, as well as all previous scores given by other Readers, is not revealed to the current Reader. Clerical aides at the Reading record data, and handle paper flow, thus freeing Readers from these duties and enabling them to concentrate on the scoring of student papers. The aides also randomly distribute the responses so that materials from any particular school are scored by a wide variety of Readers. Usually, one Reader will not score any more than one free-response question per student.

Score Conversion

Each exam has a formula for combining the scores for the multiple-choice and free-response sections or subsections and combining them into the composite score. Once the multiple-choice and the free-response sections have been scored, a computer calculates each student's composite score.

“I have regularly been a member of AP French Readings since 1985. This work has taught me much about the creation and scoring of standardized exams. The summer scoring sessions are of course convivial and collegial, but what impresses me most is the collective determination to achieve accuracy and uniformity in applying the scoring criteria.”

James T. Day, Chief Reader Designate, AP French Development Committee
Associate Professor of French
University of South Carolina

Grade Setting

Each year, immediately after the reading of the free-response sections, the Chief Reader in each AP subject is presented with statistical data on that year's exam, and decides which composite scores will delineate the boundaries between the five AP grades.

The Chief Readers are provided with a variety of evidence to use in order to maintain AP grading standards over time. This continuity of AP standards allows colleges to be confident that an AP grade of 3 on this year's exam will represent, as nearly as possible, the same level of achievement as a grade of 3 on last year's exam. Some multiple-choice questions appear on the same exam from year to year in order to provide statistical equating of scores from one year to the next. The Chief Reader uses this statistical equating, along with college comparability studies, the distribution of scores on different parts of the exams, AP grade distributions from the past three years, and the Chief Reader's own observations of students' free-response answers, as he or she makes the final decision about AP grades.

“I am truly impressed with the quality of the exam. From the development of the course content, to the design of questions, to the selection of Readers, to the development of final grading rubrics, to the checking of Reader-grader consistency, to the selection of the final cut-off points for the AP grades, this whole operation is characterized by care and educational sophistication.”

Clark Ross, Chief Reader, AP Economics Development Committee
Vice President for Academic Affairs and Dean of Faculty
Johnston Professor of Economics
Davidson College

Scoring Reliability Studies

Special statistical studies examine certain aspects of the reading process, such as the reliability of single reading of essays, time-of-day/day-of-week impact on the reliability of the scoring, and consistency of scoring from one group of Readers to another. Results from these studies provide input toward decisions regarding the timing and length of breaks for Readers, the amount of training required, the nature of the scoring guidelines used to score the free-response questions, and the frequency of consistency checks during the Reading.

Participate in AP Validity Studies

To conduct these studies, college faculty members agree to:

- administer a section of the AP Exam to their students as one of the test requirements for the course;
- provide the AP Program with the grades the students received on the AP Exam as graded by the professor; and
- provide the AP Program with the final grades of the students for the course.

Every year these college comparability studies are performed in several subjects. Information about how your college or university can participate can be found on AP Central, the College Board's online home for AP professionals at apcentral.collegeboard.com/highered.

The Work of Statisticians in the AP Exam Life Cycle

AP Statisticians are involved in all stages of the AP Exams. During the test development phase they analyze item and test data to ensure that each AP Exam meets the necessary specifications for quality, such as item fairness, high score reliability, and consistent grading standards. During the annual Reading they assist the Chief Readers by providing statistically-based recommendations for grade setting, and helping them use this data to set grades. They also monitor the test results to indicate when data suggest that a particular item should be excluded from counting toward the total score in the grade setting. Additionally they perform score-equating studies to ensure that standards are maintained across years, and college comparability studies to ensure that the test content is comparable to that of introductory college-level courses. After each Reading, they provide a statistical analysis to each Development Committee, documenting the statistical properties of the tests and scores in order to ensure that the AP Exams continue to be reliable indicators of student performance. Their findings are published in a test analysis report for each subject, and include topics such as score distributions, correlations, effect of time limits, reliability, item statistics, and differential item functions. See AP Central for more information about AP Exam statistics.

Assessment That Serves Learning

After the Reading, the Chief Reader reports back to the Committee on how the students responded to and performed on the free-response portions of the exams. This typically includes a discussion of the relative strengths and weaknesses displayed by the student group as a whole, and specific suggestions for the development of future free-response questions. This evaluation also includes the other Readers' reactions to the free-response questions at the AP Reading. This report back to the Development Committee is vital as it can help shape future free-response test questions in the process of development and inform the Committee's review of the AP curriculum. Often, Committees will use information learned in the process of scoring the AP Exam free-response questions and overall student performance to give teachers and students more and clearer information regarding how best to master the material in a particular AP subject.

“From my experience with more than a decade of Readings, I can assure you that the Reading provides great insights into the Program. Knowing how exams are scored can help high school teachers prepare their students for the exam. Understanding the care that goes into scoring and the depth of knowledge required of the students can help college faculty assess exactly how performance on the AP Exam equates to their particular program.”

Dave Reed, Chief Reader, AP Computer Science Development Committee
Associate Professor of Computer Science
Creighton University

Spotlight on Increasing Access to AP

Open Access to AP: Two Perspectives

The Advanced Placement Program encourages secondary schools to adopt open-access policies to AP courses for their students, so that all students will have the opportunity to challenge themselves. Below are two educators' perspectives on the impact of such policies in their respective high school and school district.

How Do We Define Success in AP?

by Frazier L. O'Leary Jr.
Cardozo High School
Washington, D.C.

I teach AP English Language and Literature at Cardozo High School, a public high school in Washington D.C. Our student population is predominantly African American with a large Latino minority and a significant number of Asian (mostly Vietnamese) students. With few exceptions, my students become the first members of their families to attend college after they graduate.

My students come to the AP classes for many different reasons, by many different routes, and with many different levels of competence. ...

We are convinced that all of the students will benefit from the rigors of the course, and the feedback that we receive from them after they go off to college lets us know that our direction is true. I have had students in the course improve their skills dramatically throughout the year and still score a 1 or a 2 on the AP Exam in May. In other settings, these students would probably not have even been allowed access to an AP class, but our administration believes the entire AP experience is too valuable to be exclusive.

We feel the experience that our students have with literature and the increased sophistication of their critical writing skills is more important than their scores on the exam. ...

We feel that widening the parameters for admittance into AP allows more students the opportunity to be challenged in a college-level course, prepares them to be better college students, and allows them to challenge themselves in an educational arena as never before.

AP as the "Common Curriculum"

by Michael Riley
Superintendent, Bellevue School District
Bellevue, Washington

The Advanced Placement Program does more than test kids. It tests adults, those responsible for deciding which kids are right for AP. ... The Advanced Placement Program tests all of us, our educational philosophy, our beliefs about human potential, and what we mean when we say we have high expectations for all kids. ...

The research of Clifford Adelman should weigh heavily on those who prevent students from taking AP courses.¹ He found that students who took just one AP class nearly doubled their chances of earning a college degree. Who is most

“The exciting promise and test of this century is to act on the belief that our finest students sit at every desk in the schoolhouse and that all of them are right for AP.”

Michael Riley
Superintendent, Bellevue School District
Bellevue, Washington

1. Clifford Adelman, *Answers in the Tool Box: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment* (Washington, D.C.: U.S. Department of Education, 1999).

College Board Initiatives to Promote Equity

College Board Fellows

The College Board Fellows program is a competitive grant program that provides stipends for secondary school teachers planning to teach AP courses in schools that serve minority and/or low-income students who have been traditionally underrepresented in AP courses. The stipends assist teachers with the cost of attending an AP Summer Institute.

AP Start Up Grant

Approximately 40 percent of secondary schools in the United States do not offer AP courses. Other schools are offering AP and experiencing little success. This grant program was born out of a need to assist those schools that wish to start an AP program or strengthen their current program. Grant recipients may choose up to three AP courses to start. Grant funding covers the cost of professional development, classroom supplies and resources, and the assistance of a consultant to guide them through the first academic year.

Historically Black Colleges and Universities/Hispanic Serving Institutes Initiative

In a recent survey of AP teachers nationally, the College Board noted that approximately five percent of AP teachers are of color. In an effort to diversify our AP teaching population, we have partnered with Hispanic Serving Institutes and Historically Black Colleges and Universities to offer professional development to teachers. These institutions of higher education continue to lead the country in preparing professionals of color. Through an integrated set of joint activities we hope to prepare and inspire teachers of color to join the ranks of other AP professionals.

likely to reap long-term benefits from AP classes? Those most likely to struggle in college, the very ones often relegated to second-class status in their high schools. Fortunately, the anachronistic, uninformed notion that only some students are capable or worthy of taking AP classes is falling out of favor rapidly as evidence builds each year that an ever-widening swath of our students do quite well in these challenging courses. ...

I believe all but a very few students are right for AP because I believe all students deserve a college-preparatory curriculum. ...

In an attempt to maintain AP standards while dramatically increasing enrollments, we insist that all AP students take an AP Exam when they're enrolled in an AP course. We offer two choices: the exam administered by the College Board for that year or a previously administered AP Exam given under the same testing conditions and graded on the same standards. The vast majority of students—over 90 percent of students who take AP classes—take the College Board-administered exam. The results of our students' AP Exams are meant first and foremost to inform our work—our curriculum development, our staff development, and our provisions for student support. While test results are important to us, high scores are not the primary goal. It's a standard practice in Bellevue to praise participation rates over test results, even to expect test results to drop below the national average when enrollments go well beyond the national average. If high scores were the goal, they could be guaranteed by restricting access—not a game we choose to play. Does this approach work? We administered over 2,800 AP Exams last year with a total population in grades 9 through 12 of fewer than 5,000 students, placing us among the top one percent of school districts in the country on the Challenge Index.² Our percentage of exam grades at 3 or above was identical to the nation's.

When we started our drive to make all students AP students, enrollment increased quickly and significantly. We learned, however, that many of those who failed to take advantage of open access had something in common: they were second-language learners, they were special education students, and/or their families were struggling financially. As "Choosing Tracks: 'Freedom of Choice' in Detracking Schools" explains, simply opening the door to higher-level programs is not enough to attract students traditionally excluded from these programs.³ We are now much more aggressive in recruiting these students, and we are even considering requiring advanced courses for graduation in an effort to finally break the hold these unwanted traditions have on all of us. Will we push more kids out of school if we increase our standards even further? That's not what our track record shows. During the time our AP program has been growing, our dropout rate has been cut in half, from 18 to 9 percent.

The Advanced Placement Program was launched in the middle of the last century to enable some of America's elite, its finest students, to study at a level that would keep them intellectually engaged and prepare them for the challenges of the country's top universities. The exciting promise and test of this century is to act on the belief that our finest students sit at every desk in the schoolhouse and that all of them are right for AP.

2. The Challenge Index, devised by *Washington Post* Staff Writer Jay Matthews, is a rating system for secondary schools, which compares the number of college-level examinations administered to the number of graduating seniors.

3. Susan Yonezawa, Amy Stuart Wells, and Irene Serna, "Choosing Tracks: 'Freedom of Choice' in Detracking Schools," *American Educational Research Journal* Vol. 39, No. 1 (Spring 2002): 37–67.

Federal Funding for AP

The federal Advanced Placement Incentive Program (APIP) provides exam fee subsidies to low-income students and supports state initiatives to expand access to AP. APIP was originally funded in the 1965 Elementary and Secondary Education Act, and amended in the No Child Left Behind Act of 2001. The long-term goals of the program are to demonstrate that larger and more diverse groups of students can participate and succeed in advanced placement programs, and to increase the numbers of low-income and other disadvantaged students who receive baccalaureate and advanced degrees.



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