



Advanced Placement Report to the Nation

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A Word About Comparing States and Schools

AP Exams are valid measures of students' content mastery of college-level studies in academic disciplines but should never be used as a sole measure for gauging educational excellence and equity.

Introduction

American educators are achieving much success in their efforts to enable a wider and more diverse group of U.S. students than ever before to succeed in college-level studies in high school. Yet we must also gaze clear-eyed at the inequities that remain and the challenges that accompany success in expanding access to the Advanced Placement Program® (AP®). This *Report* uses a combination of state, national, and AP Program data to provide each U.S. state with context for celebrating its successes, understanding its unique challenges, and setting meaningful and data-driven goals to prepare more students for college success.

Part I of the *Report* comprises three powerful themes that appear once we situate each state's AP participation and performance data within the context of its own racial/ethnic demographics and population size. Because one of the chief purposes of Part I is to provide state departments of education with new data to gauge success and identify current challenges in providing equitable educational opportunity (and because current, reliable racial/ethnic demographic data for nonpublic schools are not available for all states), the data in Part I represent public schools only.

Part II of the *Report* uses data from all schools participating in AP, public and nonpublic, to identify the most successful AP classrooms in the nation currently, and to provide overall participation and performance information for each of the AP subject areas. To inform teaching and learning, this section of the *Report* also analyzes the results of the AP Examinations to provide AP teachers, department chairs, college faculty, and other educators with feedback about the knowledge and skills AP students are particularly demonstrating—or failing to demonstrate.

In addition to the data presented in this *Report*, the Advanced Placement Press Room (at www.collegeboard.com/apress) contains much additional data and research to supplement the tables and charts herein.

What is the Advanced Placement Program®?

The College Board partners with colleges and universities¹ to create assessments of college-level learning—the AP Exams—in 37 subject areas. The College Board then supports secondary schools in training teachers and developing a curriculum of high academic intensity and quality that will enable students to meet the standards for college-level learning in these subjects. As a result, most colleges and universities in the United States, as well as institutions in more than 30 other countries, use AP Exam results in the admissions process as a designation of a student's ability to succeed in rigorous curricula, and also award college credit or placement into higher-level college courses so that college entrants can move directly into the courses that match their level of academic preparation for college.

How are the AP® Exams scored?

AP Exams, with the exception of AP Studio Art, which is a portfolio assessment, each consist of dozens of multiple-choice questions, which are scored by machine, and free-response questions (essays, translations, problems), which are scored at the annual AP Reading by more than 8,000 college faculty and expert AP teachers, using scoring standards developed by college and university faculty who teach the corresponding college course.

What is the scale for the AP Exam grades?

The composite score for each AP Exam is converted to an AP Exam grade of 5, 4, 3, 2, or 1. AP Exam grades of 5 are equivalent to the top A-level work in the corresponding college course. AP Exam grades of 4 are equivalent to a range of work representing mid-level A to mid-level B performance in college. Similarly, AP Exam grades of 3 are equivalent to a range of work representing mid-level B to mid-level C performance in college.

Why report on how many high school graduates succeeded on an AP Exam?

With 75 percent of U.S. high school graduates entering college,² the nation is steadily democratizing entrance to college. But high college dropout rates and the fact that about half of all college freshmen are taking at least one remedial course show us that it is not enough simply for secondary schools to help students gain admission.³ If we are to succeed in democratizing what really counts—successful college degree completion—the gulf between high school graduation standards and freshman college course requirements must be eliminated.

Recent research from the University of California at Berkeley⁴ and the National Center for Educational Accountability⁵ finds that an AP Exam grade, and a grade of 3 or higher in particular, is a strong predictor of a student's ability to persist in college and earn a bachelor's degree.

How does this Report define success on an AP Exam?

Throughout the *Advanced Placement Report to the Nation*, “success on an AP Exam” is defined as an exam grade of 3 or higher. As noted above, a 3 is the grade that research consistently and currently finds predictive of college success and graduation.

That said, we should not discount or devalue the experience of students who take an AP course but do not earn an exam grade of 3 or higher. In fact, while the Third International Math and Science Study (TIMSS) found that U.S. advanced math and physics students “were not leading, but lagging behind other students around the world in mathematics and physics achievement,” AP students, even those scoring 1s and 2s on the AP Exam, were hailed for having demonstrated in the study calculus and physics knowledge comparable to that of the highest achieving calculus and physics students in the world.⁶



In calculus:

- U.S. students did not fare well, ranking 22 out of 23 countries.
- The exception: AP Calculus students. Even those students who earned AP Calculus grades of 1 or 2 demonstrated the same level of math achievement as students from the top-performing nation, France.

In physics:

- U.S. students fared worse than students of any other nation, ranking 23 out of 23 countries.
- The exception: AP Physics students. Even those students who earned AP Physics grades of 1 or 2 were only bested by students from the top two nations, Norway and Sweden.

But because more research is needed to establish the conditions under which AP Exam grades lower than 3 relate to college success, reduction of remediation required, and other outcomes, this *Report* uses an AP Exam grade of 3 or higher as the definition of “success on an AP Exam.”

New Developments in AP

The AP Course Audit

The AP Course Audit was created at the request of secondary school and college members of the College Board who requested that the College Board:

1. Provide teachers and administrators with clear guidelines on curricular and resource requirements that must be present in a secondary school course before that course can be considered “college level” and be labeled “AP”; and
2. Ensure consistency for college and university admissions offices across courses marked “AP” on students’ transcripts.

All schools wishing to label a course “AP” for the 2007-08 school year and beyond must first receive authorization to do so by completing the AP audit process, which involves submitting a copy of the course syllabus for review by current college faculty representing hundreds of universities nationwide. Within two months of submitting AP Course Audit materials, schools will receive authorization for qualifying courses to use the “AP” designation on student transcripts. Each fall, beginning November 2007, colleges and universities will receive a ledger of schools that lists the courses authorized to use the “AP” designation at each school.

The AP Program unequivocally supports the principle that each individual school must develop its own curriculum for courses labeled “AP.” Rather than mandating any one curriculum for AP courses, the AP Course Audit instead provides each AP teacher with a set of expectations that college and secondary school faculty nationwide have established for college-level courses. AP teachers are encouraged to develop or maintain their own curriculum that either includes or exceeds each of the curricular and resource requirements; such courses will be authorized to use the “AP” designation. Credit for the success of AP courses belongs to the individual schools and teachers that create powerful, locally designed AP curricula.

For more information about the AP Course Audit, visit <http://apcentral.collegeboard.com/courseaudit>

Chinese Language and Culture Initiatives

Chinese Language and Culture Initiatives

中国语言和文化项目

In 2004, the College Board conducted a survey that revealed a surging interest among U.S. secondary schools in offering courses in Chinese language. Nearly 2,400 high schools indicated interest in offering an AP Chinese course in the near future. However, few of those schools even offered first-year Chinese classes at the time. To address the gaps between desire to offer Chinese and current capabilities in U.S. schools, the College Board and China’s Office of Chinese Language Council International (Hanban) formed a historic partnership and developed a five-year plan to support the growth of Chinese language instruction in U.S. schools and to build a solid foundation for the AP Chinese program.

Programs are offered to serve schools, teachers, and students:

- **Chinese Guest Teacher Program:** Qualified language teachers from China teach in U.S. K–12 schools for up to three years. The teachers offer authentic language and cultural expertise to the students and school community. Two hundred and fifty teachers will be placed in U.S. schools in 2007-09.
- **Delegations to China:** School and district leaders travel to China for a one-week educational tour as guests of Hanban. Participants learn firsthand about the country, language, and culture. Nearly 400 U.S. educators participated in 2006; larger delegations are planned for 2007 and beyond.
- **Teacher Candidate Scholarships:** Chinese speakers in the U.S. are eligible to receive tuition scholarships that will enable them to enroll in courses of study at colleges and universities to receive certification to teach Chinese language in elementary and secondary schools. Up to 400 scholarships will be distributed from 2007 to 2010.

- **In-Service Professional Development:** Current U.S.-based Chinese teachers attend intensive Summer Institutes in China to enhance their professional and cultural expertise. Sixty teachers received scholarships to attend in 2006; 500 teachers in total from 2006 to 2010 are expected to receive grants that will enable them to attend these professional development Institutes.
- **Student Programs:** Chinese immersion summer camps will provide American high school students with an opportunity to improve their language skills and gain firsthand experience in the culture, helping them prepare to enroll and succeed in AP Chinese classes in the future. The first camp will be held in summer 2007 with up to 200 students, many of whom will receive scholarships. One-year scholarships to study in China are also offered to high school graduates and college students.
- **Chinese Culture Presentations:** Guest presentations on Chinese language and culture are offered in K–12 schools to build awareness and foster student interest. Presentations were held in 60 schools in 10 states in fall 2006, with more scheduled in spring 2007.

More information is available at:

www.collegeboard.com/k12chinese.

AP Courses and Exams in Chinese Language and Culture and Japanese Language and Culture

The 2006-07 school year sees the launch of the first AP courses in Chinese and Japanese. The introduction of these two new AP courses is an important step in a commitment by the College Board to further multiculturalism and multilingualism in secondary school education. When announcing these new AP courses, College Board President Gaston Caperton stated, “World events make it ever more obvious that a broad knowledge and understanding of other languages and cultures is essential for our young people.” These new AP courses were designed by task forces comprised of renowned college faculty and master secondary school teachers of Chinese and Japanese.

The AP Chinese and AP Japanese Exams are Internet-based tests. Each student tests at an individual computer, which processes everything read, heard, written, or spoken by the student. All written directions and questions appear onscreen, and all spoken directions and questions are delivered through individual headphones. Students’ written responses are typed in Chinese or Japanese using the computer keyboard, and their spoken responses are recorded digitally, through microphones, in the exam’s software.

AP Chinese Language and Culture

This AP course is designed to be comparable to fourth-semester college courses in Mandarin Chinese. The course aims to provide students with ongoing and varied opportunities to further develop their proficiencies across the full range of language skills within a cultural frame of reference reflective of the richness of Chinese language and culture. Because language and culture are inseparable, an introductory knowledge of Chinese culture (geography, population, society, history, arts, philosophy, global interactions and interconnections) is an integral part of the AP Chinese course.

AP Japanese Language and Culture

Like the intermediate college course to which AP Japanese is comparable, this course supports students as they develop the productive, receptive, and cultural skills necessary to communicate with native speakers of Japanese. Units of instruction introduce students to a broad spectrum of Japanese culture (social, political, educational issues; religion; gender; arts; history; geography); the often demanding texts containing these rich sources of information require command of a significant number of kanji.

Advanced Placement **Report to the Nation 2007**

Part I:

Three Themes for the Nation



Theme #1: State Initiatives

Foster Student Success⁷

Leading the Nation: States with the greatest percentage of Graduating Seniors Having Scored 3+ on an AP Exam in High School

1. New York (22.7%)
2. Maryland (22.0%)
3. Utah (20.8%)
4. Virginia (20.7%)
5. California (20.1%)
6. Massachusetts (19.8%)
7. Florida (19.6%)
8. Connecticut (19.4%)
9. North Carolina (18.0%)
10. Colorado (17.9%)

2005 to 2006 Expansion of AP Grades of 3+

1. Arkansas (tie)
1. New Hampshire (tie)
3. Delaware
4. Nebraska (tie)
4. Oklahoma (tie)
4. Virginia (tie)

2000 to 2006 Expansion of AP Grades of 3+

1. Maryland
2. Delaware
3. North Carolina
4. Washington
5. Florida

Across all 50 states and the District of Columbia, educators and policymakers have succeeded in helping a wider segment of the U.S. student population than ever before successfully complete a college-level AP course before leaving high school.

The “Arkansas model”

Arkansas’s landmark legislation, which is being hailed as exemplary by other states, requires all public schools in the state to make AP courses available for their students, and to support this requirement, the state has allocated funding that enables Arkansas teachers to spend part of the summer at intensive AP teacher professional development Summer Institutes provided by colleges and universities in Arkansas and neighboring states. Arkansas is currently tied with **New Hampshire** for achieving the greatest one-year expansion of AP grades of 3, 4, and 5 across its student population. **West Virginia** has just passed similar legislation.

Sustained success

A number of states have achieved significant expansion of AP success year after year. What does each of these states have in common? Departments of education and elected officials who have worked together to implement policies and initiatives aimed at increasing rigor and quality in secondary schools. These include projects designed to:

- Expand AP to rural students (**Washington**);
- Provide incentives for teachers and administrators willing to put in the extra work needed to help traditionally underserved students succeed on AP Exams (**Florida**);
- Implement initiatives designed to prepare low-income students for success in AP (**Delaware**);
- Implement a sequential curriculum across grades 6–12 culminating in AP (**Maryland**); and
- Provide virtual learning opportunities for remote students (**North Carolina**).

Table 1: *AP Participation and Performance in Public Schools*

State	Percentage of Students Scoring 3 or Higher on an AP Exam During High School Years ⁸		Change: 2000 to 2006
	High School Class of 2000	High School Class of 2006	
Alabama	3.9	5.7	1.8
Alaska	10.1	12.6	2.5
Arizona	7.2	9.4	2.2
Arkansas	4.3	9.8	5.5
California	15.0	20.1	5.1
Colorado	12.2	17.9	5.7
Connecticut	13.6	19.4	5.8
Delaware	7.6	14.5	6.9
District of Columbia	6.6	9.6	3.0
Florida	13.5	19.6	6.1
Georgia	9.7	14.8	5.1
Hawaii	5.8	7.6	1.8
Idaho	6.5	9.7	3.2
Illinois	9.9	15.1	5.2
Indiana	6.0	9.2	3.2
Iowa	4.9	7.8	2.9
Kansas	4.4	7.7	3.3
Kentucky	5.5	9.4	3.9
Louisiana	1.9	2.3	0.4
Maine	10.1	14.4	4.3
Maryland	14.1	22.0	7.9
Massachusetts	14.5	19.8	5.3
Michigan	8.8	12.2	3.4
Minnesota	8.1	12.4	4.3
Mississippi	2.3	3.5	1.2
Missouri	3.7	6.3	2.6
Montana	6.8	10.0	3.2
Nebraska	3.2	5.8	2.6
Nevada	9.1	13.3	4.2
New Hampshire	9.2	13.6	4.4
New Jersey	12.9	16.6	3.7
New Mexico	6.1	9.0	2.9
New York	17.9	22.7	4.8
North Carolina	11.3	18.0	6.7
North Dakota	4.4	6.8	2.4
Ohio	7.1	10.5	3.4
Oklahoma	5.4	9.6	4.2
Oregon	7.1	10.4	3.3
Pennsylvania	8.3	11.1	2.8
Rhode Island	6.9	8.4	1.5
South Carolina	10.0	12.5	2.5
South Dakota	5.9	9.4	3.5
Tennessee	6.2	9.5	3.3
Texas	9.9	14.6	4.7
Utah	17.4	20.8	3.4
Vermont	11.5	16.3	4.8
Virginia	15.9	20.7	4.8
Washington	7.6	14.1	6.5
West Virginia	4.6	6.4	1.8
Wisconsin	10.5	15.8	5.3
Wyoming	3.8	6.6	2.8
Nation	10.2	14.8	4.6

Theme #2: Closing Equity Gaps

Despite increased diversification of the AP classroom, African American and Native American students remain significantly underrepresented in AP classrooms nationwide, and Hispanic students remain underrepresented in AP classrooms in many states.

The Advanced Placement Program's official Equity Policy Statement reads:

“The College 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.”

African American, Hispanic, and Native American students have been traditionally underrepresented in AP courses, and no state with large numbers of African American or Native American students has yet succeeded at providing AP opportunities that allow for equitable representation of these students (see Figure 1).

The Florida achievement

Through a far-reaching set of initiatives, Florida has dramatically expanded AP participation and performance among Hispanic students, such that the percentage of AP students who are Hispanic exceeds the percentage of non-AP students who are Hispanic. Florida has used state funding to provide teacher professional development, uses the PSAT/NMSQT® predictive scores to identify and encourage “diamond in the rough” students to try the challenge of an AP course, and fosters an atmosphere of inclusion by rewarding schools and teachers for each additional student they help achieve a score of 3 or higher on an AP Exam.

Some words of caution and concern

Despite the strides that have been made by educators to provide traditionally underrepresented students with AP courses, poor AP Exam results indicate that often these teachers and students are not receiving adequate preparation for the rigors of an AP course. As a result, traditionally underrepresented students currently demonstrate significantly lower performance on AP Exams. See Appendix B for mean AP Exam grades, by race/ethnicity, for each AP subject area.

Major initiatives are needed to ensure adequate preparation of students in middle school and ninth and tenth grades, so that students will then have a fair shot at success when provided with an AP opportunity.

Just as important: As the racial/ethnic demographics of America's classrooms continue to shift, major initiatives must be enacted to build schools' capacities to offer AP courses to the steadily diversifying student population.

Figure 1. The Class of 2006: Race/Ethnicity of AP Examinees vs. Graduating Seniors in U.S. Public Schools

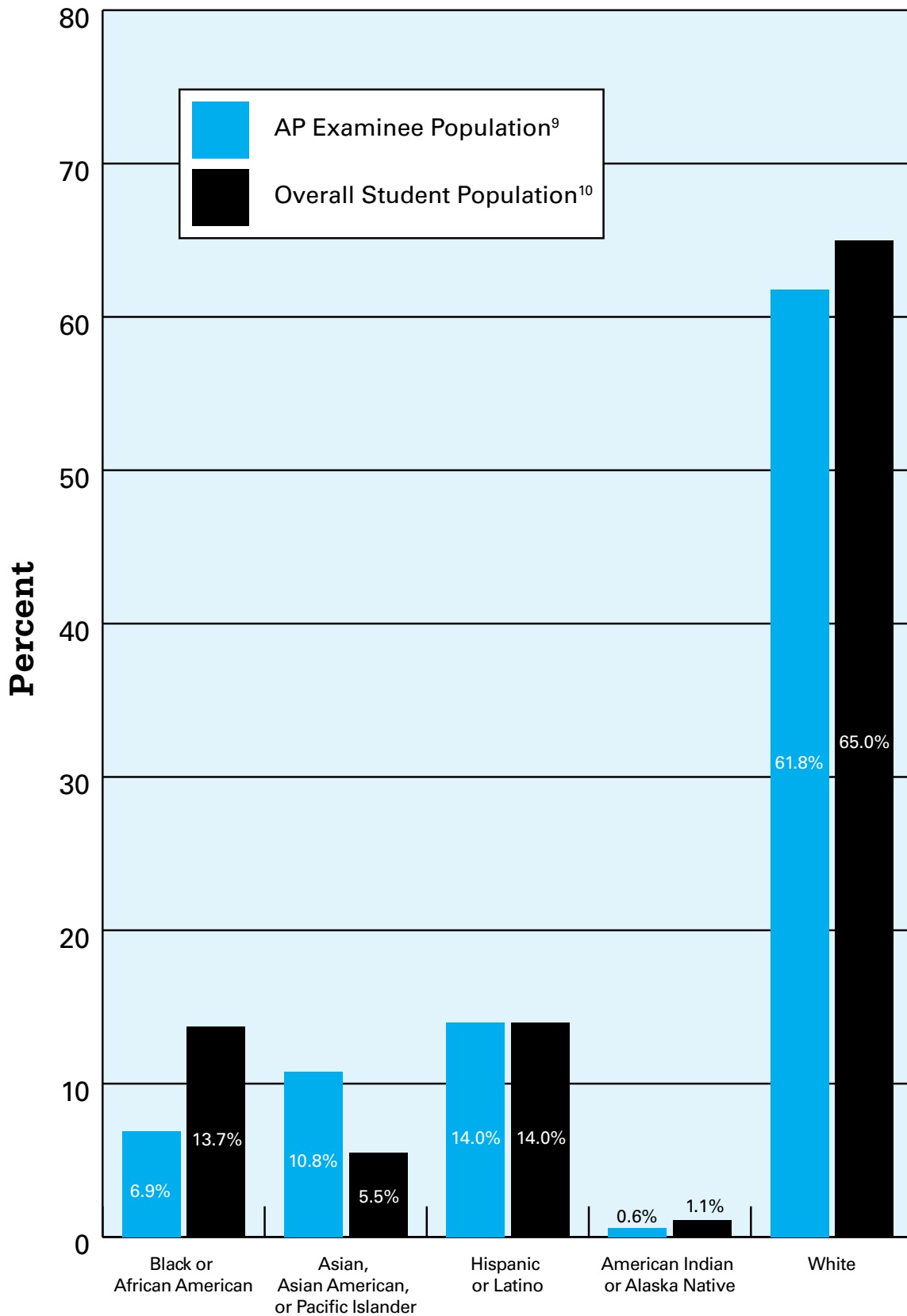


Table 2: *Equity Gaps: Racial/Ethnic Demographics of Total Student Population¹⁰ vs. AP Examinees⁹ (U.S. Public Schools, Class of 2006)*

State	Black or African American Students			Hispanic or Latino Students			American Indian or Alaska Native Students		
	% of Student Population	% of AP Examinees	Equity Gap Eliminated	% of Student Population	% of AP Examinees	Equity Gap Eliminated	% of Student Population	% of AP Examinees	Equity Gap Eliminated
Alabama	32.2%	14.6%		1.3%	1.8%	✓	1.3%	0.5%	
Alaska	4.2%	2.7%		3.1%	3.3%	✓	20.5%	4.4%	
Arizona	4.7%	2.3%		29.9%	17.9%		5.9%	2.0%	
Arkansas	21.1%	12.8%		4.5%	3.5%		0.6%	1.0%	✓
California	7.3%	3.6%		36.4%	30.2%		0.9%	0.4%	
Colorado	4.7%	2.9%		17.1%	9.9%		0.9%	0.7%	
Connecticut	11.3%	5.1%		10.0%	7.2%		0.2%	0.2%	✓
Delaware	26.5%	11.3%		4.6%	3.7%		0.4%	0.6%	✓
District of Columbia	82.4%	60.4%		9.7%	12.9%	✓	*	0.1%	*
Florida	19.7%	11.0%		20.7%	24.2%	✓	0.3%	0.4%	✓
Georgia	33.1%	20.4%		4.4%	4.0%		0.2%	0.3%	✓
Hawaii	1.6%	1.8%	✓	3.7%	2.4%		0.3%	0.4%	✓
Idaho	0.5%	0.5%	✓	7.9%	3.2%		1.0%	0.6%	
Illinois	13.6%	8.4%		12.3%	11.2%		0.3%	0.2%	
Indiana	8.3%	4.3%		3.2%	2.5%		0.2%	0.2%	✓
Iowa	2.6%	1.4%		3.2%	2.1%		0.6%	0.3%	
Kansas	6.6%	3.3%		7.0%	4.2%		1.1%	0.8%	
Kentucky	9.0%	4.3%		2.5%	1.8%		0.4%	0.3%	
Louisiana	44.0%	16.0%		1.7%	3.6%	✓	0.6%	0.4%	
Maine	1.9%	0.7%		1.0%	1.0%	✓	0.5%	0.5%	✓
Maryland	34.2%	14.3%		5.5%	6.0%	✓	0.3%	0.3%	✓
Massachusetts	8.3%	3.5%		7.8%	5.1%		0.3%	0.2%	
Michigan	13.9%	4.6%		2.8%	2.3%		0.8%	0.4%	
Minnesota	5.2%	1.8%		2.8%	1.4%		1.2%	0.4%	
Mississippi	46.0%	33.1%		0.8%	1.3%	✓	0.1%	0.1%	✓
Missouri	14.0%	6.7%		2.1%	2.2%	✓	0.3%	0.4%	✓
Montana	0.5%	0.5%	✓	2.0%	1.6%		7.9%	1.4%	
Nebraska	4.6%	1.7%		6.1%	3.9%		0.8%	0.2%	
Nevada	8.1%	4.6%		20.1%	14.6%		1.3%	0.5%	
New Hampshire	1.2%	0.5%		2.0%	1.5%		0.2%	0.4%	✓
New Jersey	14.8%	5.5%		14.1%	9.3%		0.2%	0.2%	✓
New Mexico	2.3%	1.9%		45.4%	37.4%		12.2%	5.5%	
New York	14.4%	7.0%		11.8%	11.1%		0.4%	0.3%	
North Carolina	27.3%	13.4%		4.6%	3.7%		1.0%	0.6%	
North Dakota	1.0%	0.1%		1.1%	1.2%	✓	5.9%	0.7%	
Ohio	11.0%	6.4%		1.5%	1.8%	✓	0.1%	0.3%	✓
Oklahoma	9.6%	6.2%		6.0%	5.6%		18.6%	9.2%	
Oregon	2.2%	1.0%		8.9%	5.2%		1.7%	0.9%	
Pennsylvania	11.8%	4.7%		3.4%	2.4%		0.1%	0.1%	✓
Rhode Island	8.9%	2.7%		13.7%	4.7%		0.5%	0.0%	
South Carolina	37.7%	15.8%		2.4%	2.3%		0.1%	0.4%	✓
South Dakota	1.0%	1.2%	✓	1.3%	1.1%		4.8%	1.1%	
Tennessee	21.0%	15.6%		1.3%	2.3%	✓	0.1%	0.2%	✓
Texas	13.5%	6.9%		35.9%	33.7%		0.3%	0.5%	✓
Utah	0.9%	0.5%		8.0%	5.1%		1.3%	0.4%	
Vermont	0.6%	1.0%	✓	1.0%	0.9%		0.3%	0.2%	
Virginia	24.1%	10.2%		6.2%	5.7%		0.3%	0.4%	✓
Washington	4.5%	2.5%		8.4%	5.7%		1.9%	0.7%	
West Virginia	3.9%	1.7%		0.5%	1.3%	✓	0.2%	0.5%	✓
Wisconsin	5.4%	2.2%		3.8%	2.6%		1.0%	0.5%	
Wyoming	2.4%	0.7%		5.9%	4.8%		2.0%	0.7%	
Nation	13.7%	6.9%		14.0%	14.0%	✓	1.1%	0.6%	

*Precise American Indian or Alaska Native student enrollments for the District of Columbia are not available from the Western Interstate Commission for Higher Education.

Theme #3: New Research on AP and College Success

The state of Texas has the second-largest population of AP students in the nation, and because its population contains a significant proportion of traditionally underserved minority students, Texas is an excellent site for continued research on the relationship between AP and college success. Brand-new studies conducted by University of Texas researchers confirm the use of AP Exam results to identify students for college admission and to provide students with college credit and advanced standing.

The Keng and Dodd Study

Key questions:

- How do AP students fare when they skip an entry-level college course because their AP grade allows them to place directly into a higher-level college course?
- How do college course-taking patterns of AP students compare to those of non-AP students?

Findings:

- AP students earn higher GPAs in the advanced college courses into which their AP credit allowed them to place, compared to students with the same high school class rank and SAT scores who did not earn AP credit and who did not skip the entry-level college course.
- AP students who place directly into a higher-level college course take more college courses in that same subject area, on average, than students who did not take an AP Exam in that subject area in high school.

Summary: A new study conducted by University of Texas researchers Leslie Keng and Barbara Dodd (in press) finds that students who placed out of introductory college courses as a result of successful AP Exam grades (i.e., the AP Credit group) earned higher college GPAs (see Figure 2) and took more credit hours in the subject area of their exam (see Figure 3) than non-AP students. The study followed four cohorts of entering freshmen (1998–2001) at the University of Texas at Austin and accounted for differences in the ability levels of the AP and non-AP students by matching high school rank and college admission test scores. Figures 2 and 3 present a sample of the results for the most recent cohort (2001); however, findings indicated that the results were generally consistent across the other cohorts and AP Exams included in the study.

The Hargrove, Godin, and Dodd Study

Key questions:

- How do AP students compare to non-AP students in a variety of “college success” measures: first-year GPA, fourth-year GPA, four-year graduation status, etc.?

Findings:

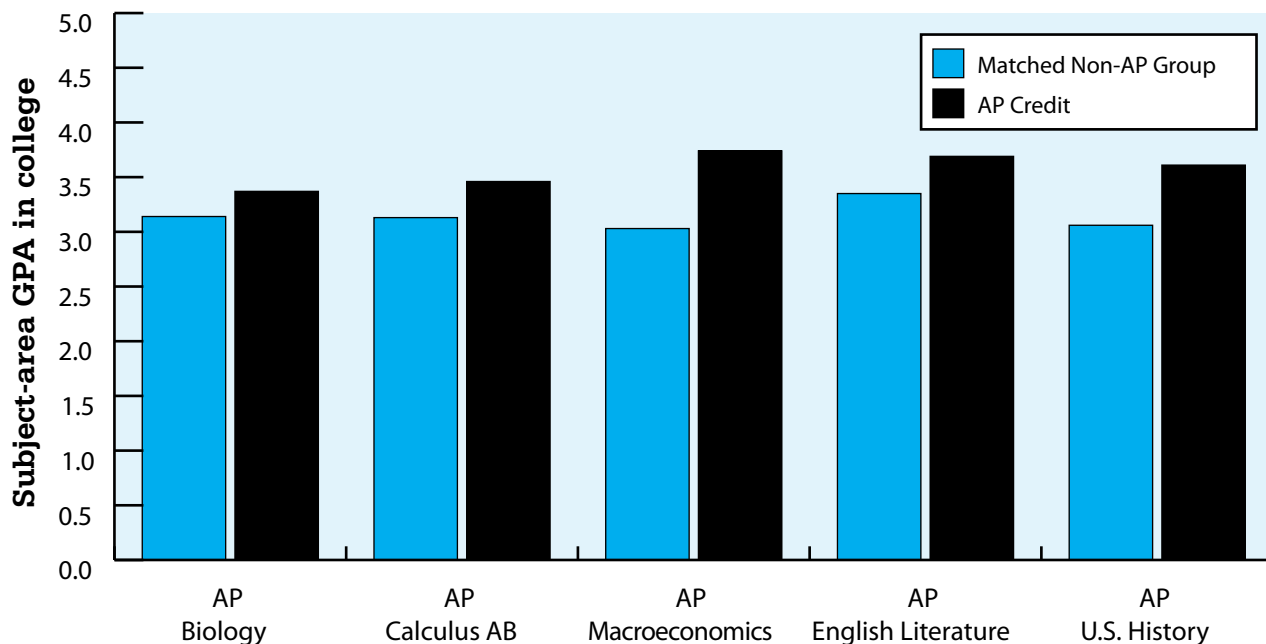
- AP students statewide in Texas earn higher college GPAs and have higher four-year graduation rates when compared to students with similar SAT scores and socioeconomic backgrounds who did not take AP courses and exams.

Another new study by Texas researchers Linda Hargrove, Donn Godin, and Barbara Dodd (in press) also used data from Texas, but followed five cohorts of students (1998–2002) who enrolled at *any* Texas public higher education institution after graduating from a Texas public high school. The study provides an extensive comparison of students’ performances on several college outcomes—including first- and fourth-year grade point averages (GPAs) and four-year (baccalaureate) graduation status—in relation to the various types of AP and non-AP experiences they had in high school, aggregated across all AP subject areas. Among the groups of students studied were:

- College students who had taken one or more AP courses and exams in high school (i.e., the “AP course and exam” group);
- College students who had taken one or more AP courses in high school but not the associated AP Exam (i.e., the “AP course only” group); and
- College students who had not taken any AP courses or exams in high school (i.e., the “standard high school courses” group).

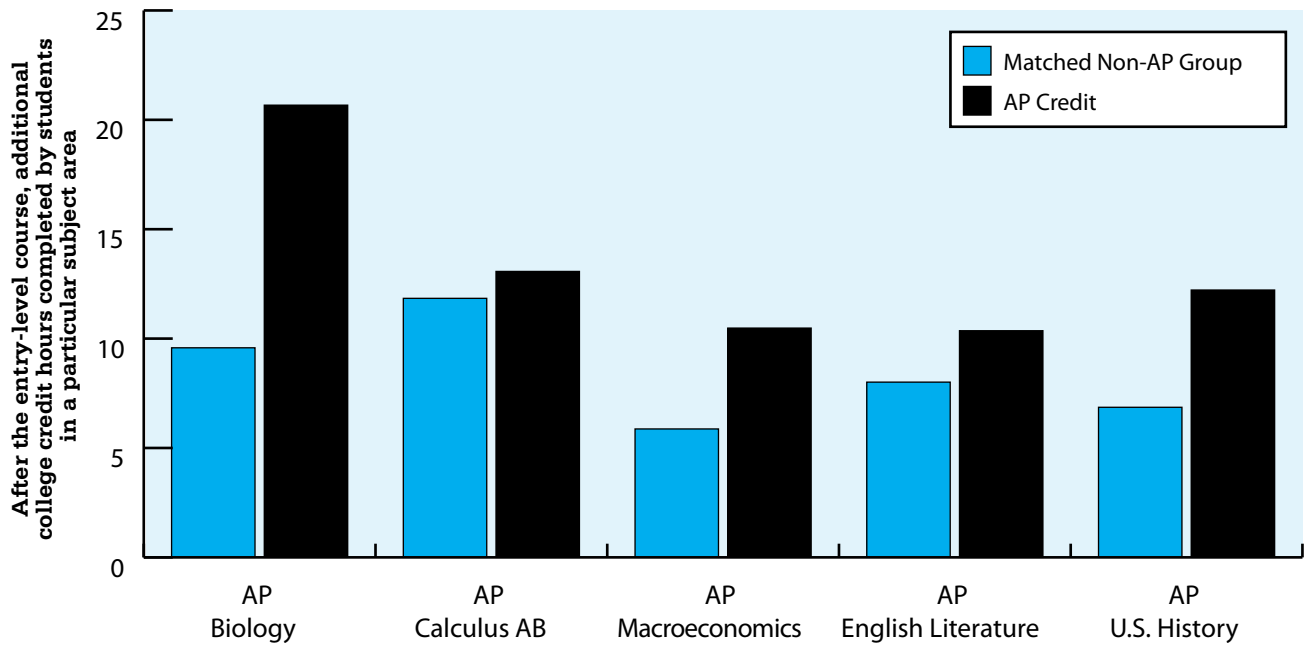
SAT score and Free or Reduced Price Lunch (FRPL) status were included as control variables in an effort to account for possible ability and income differences between the groups. Results showed that students who took one or more AP courses and exams (i.e., the AP course and exam group) and students who took one or more AP courses but no exam (i.e., the AP course only group) significantly outperformed the “standard high school courses” group on all college outcomes in all years, after statistically controlling for SAT score and FRPL status. The “AP course and exam” group also significantly outperformed the “AP course only” group on all college outcomes in all years.

Figure 2. Subject-Area GPA in Courses Taken After the Entry-Level College Course



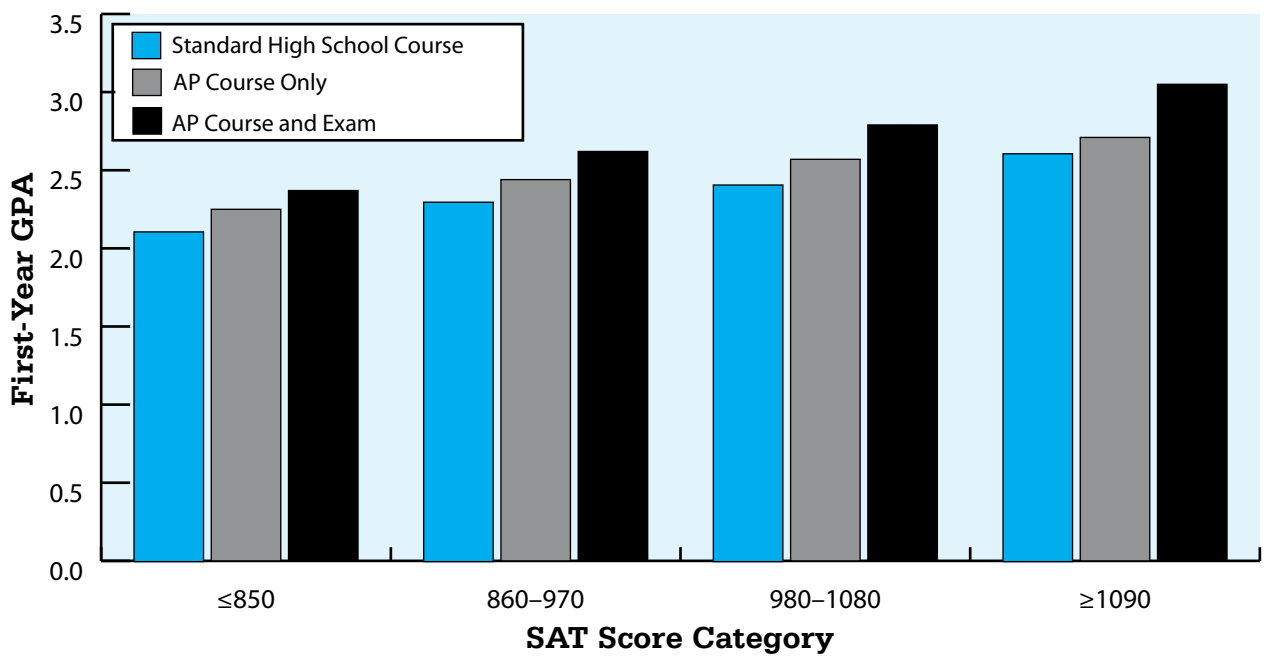
Note: All AP/Non-AP means differ significantly ($p < .05$).

Figure 3. After the Entry-Level Course, Additional College Course Work Completed in a Subject Area



Note: All AP/Non-AP means differ significantly ($p < .05$).

Figure 4. First-Year College GPA



Note: “AP Course and Exam” means differ significantly from the “Standard High School Course” means, $p < .01$. “AP Course and Exam” means differ significantly from “AP Course Only” means except in the ≤ 850 SAT Score Category, $p < .01$. “AP Course Only” means differ significantly from the “Standard High School Course” means except in the ≥ 1090 SAT Score Category, $p < .01$.



Advanced Placement **Report to the Nation 2007**

Part II:

AP Subject Areas: Participation, Performance, and Feedback for Educators



An Overview of Part II of the *Advanced Placement Report to the Nation*

Total secondary school enrollments, and particularly enrollments disaggregated by race/ethnicity, are not consistently available for nonpublic schools. Accordingly, Part I of this *Report*, designed for state and national policymakers and leaders, focused only on public schools in its state-by-state tables.

Part II of this *Report* broadens its focus to examine AP participation globally, and not just the participation within U.S. public schools. Accordingly, the data in Part II include the thousands of U.S. nonpublic schools that offer AP, as well as the hundreds of schools outside the U.S. that provide AP courses for their students.

In Part II, we recognize the schools in each AP discipline that in 2006 achieved the tremendous success of helping a larger proportion of their total school population succeed on a particular AP Exam than any other school in the nation. See below for an index to the schools cited in this *Report*. (Schools outside the United States that lead in each subject area are listed in Appendix E.)

In addition, this section of the *Report* includes feedback on student learning for AP teachers and administrators. This feedback is an excerpt from a much longer and more substantive exam results commentary available to the public on the AP Central® Web site. We encourage all AP teachers and administrators to avail themselves of the complete commentary and to use it to revise and focus syllabi as necessary to address weaknesses or deficiencies in the curriculum.

Index of Schools Cited in Part II of the *Report*:

California:

Canyon Crest Academy, page 78
Diamond Bar High School, page 22
El Rancho High School, page 20
The Harker School, page 66
Harvard-Westlake School, pages 30, 32, 34, 60
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Monta Vista High School, page 20
Montgomery High School, page 70
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Renaissance High School, page 32

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The South Carolina Governor's School for Science and
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Texas:

Greenhill School, page 72

Keystone School, page 76

La Joya High School, page 68

Oratory Athenaeum University Preparatory, pages 68, 70

School for the Talented and Gifted Magnet High School,
pages 28, 48, 54

Science and Engineering Magnet High School,
pages 22, 24, 28

Sunset High School, page 68

Virginia:

Broadwater Academy, page 52

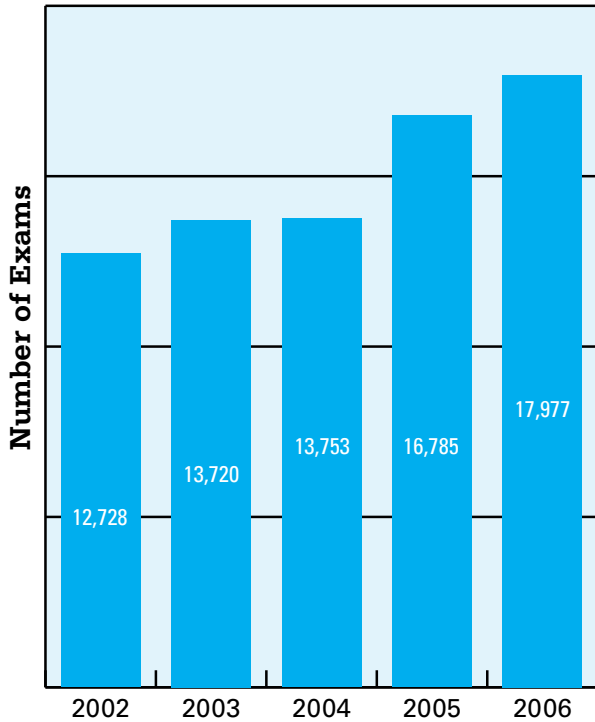
Maggie L. Walker Governor's School for Government and
International Studies, pages 44, 46

Norfolk Academy, page 42

Thomas Jefferson High School for Science and Technology,
pages 24, 26, 38, 46, 76

AP Art History

**AP Art History
Number of Exams, 2002–2006**



Exemplary AP Art History Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Art History.

Small-size school (<300 students in grades 10–12):

Louisville Collegiate School (Louisville, KY)

- Head of School: Thomas M. Hobert
- AP Teacher: Cindy Brundige

Medium-size school (300–799 students in grades 10–12):

Park Tudor School (Indianapolis, IN)

- Head of School: Jillian S. Kaechele
- AP Teachers: Heather A. Teets, Carol Rogers

Large-size school (800+ students in grades 10–12):

Montgomery High School (Skillman, NJ)

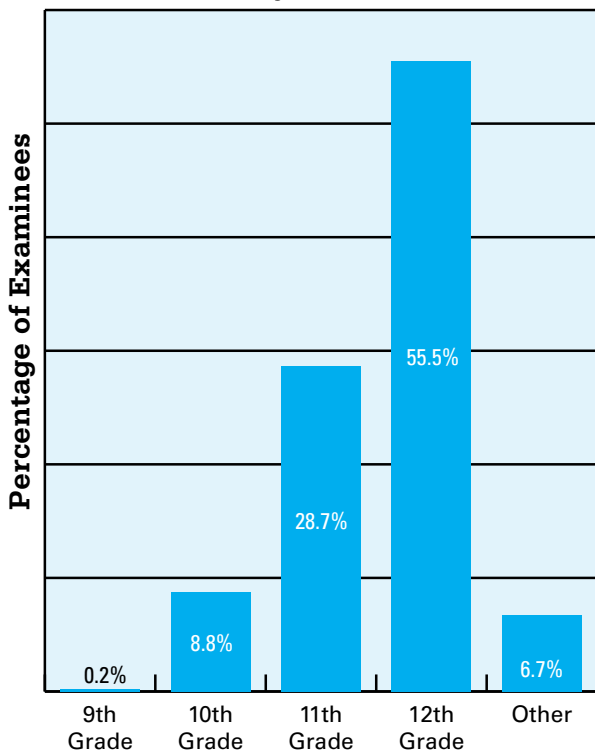
- Head of School: James H. Misek
- AP Teachers: Frank Chmiel, Sara Spurling

School with the Largest Number of Latino Students Scoring 3+:

Barbara Goleman High School (Miami, FL)

- Head of School: Carlos Artime
- AP Teacher: Gretchen Marfisi

**AP Art History
Examinees by Grade Level, 2006**

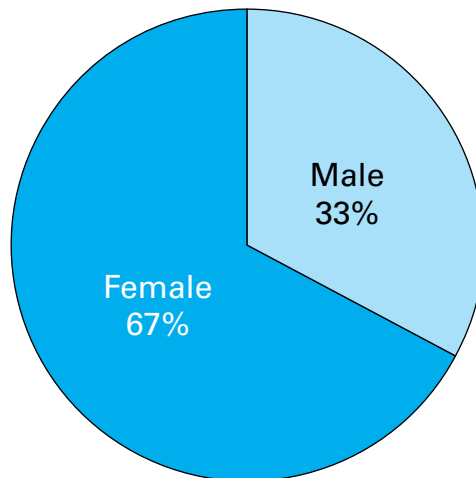


AP Grade Distribution, 2006

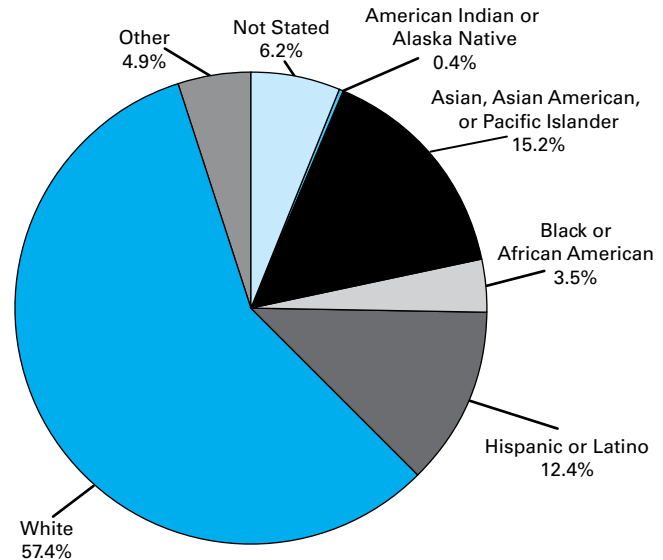
Exam Grade	Number of Examinees	%
Score of 5	1,510	8.4%
Score of 4	4,036	22.5%
Score of 3	4,653	25.9%
Score of 2	3,508	19.5%
Score of 1	4,270	23.8%
	17,977	100.0%

Number of Schools Offering This Course: 1,364

**AP Art History
Examinees by Gender, 2006**



**AP Art History
Examinees by Race and Ethnicity, 2006**



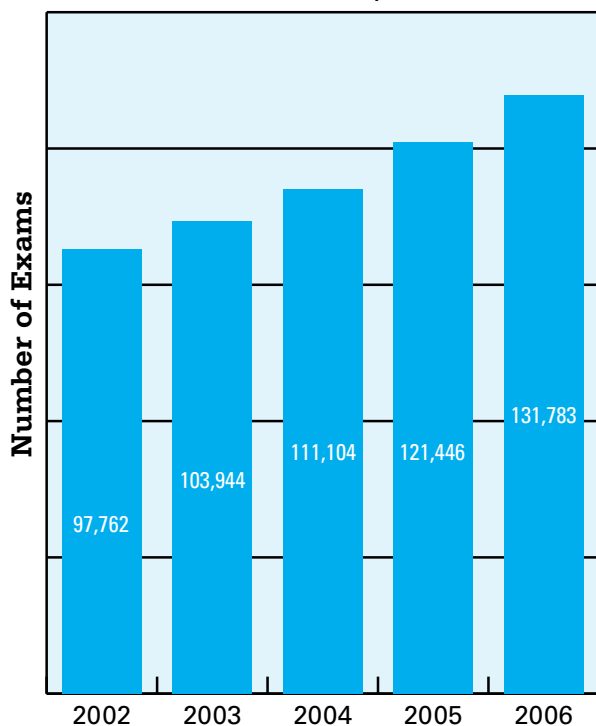
Feedback for Educators

The following observations on student learning in this AP course are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

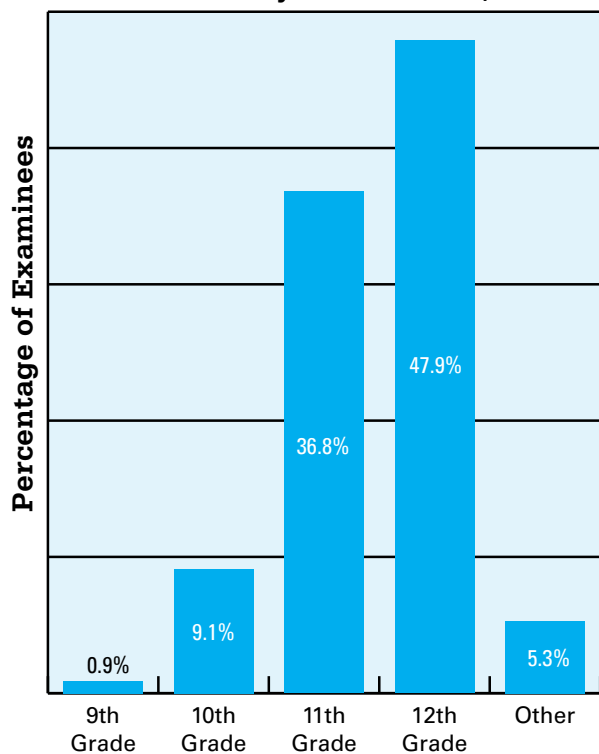
- Students must be able to take bodies of knowledge and draw inferences from thoughtful comparisons—not just visual, but historical, cultural, and functional comparisons.
- Students need to understand the characteristics of major art historical periods that they study as they are represented in the works of various artists and be able to work with them actively. It is not enough for students to memorize the characteristics of an art historical period. Students also need to know that art history is not a series of discrete, cleanly separable, static periods but a living, dynamic, fluid enterprise, and that pivotal, transitional artists can be critical to art history.
- It is important that students are aware of the major architectural thinkers, practitioners, and theorists of art history, and it is crucial that they know something about architecture in the modern age. Students need to be able to understand what buildings look like from many angles and how they appear in plan and elevation. It is recommended that textbooks be supplemented by short architecture texts or photocopies of articles and pictures of buildings.
- The lack of knowledge about the modern period in general is disconcerting in both its range and depth. It appears that students are not learning very much about the modern period (19th- and 20th-century art). The modern period is an integral part of the AP Art History course and will continue to appear on the AP Art History Exam.
- Some teachers are clearly covering at least one culture beyond their own in depth and with great skill. These teachers and their students are to be commended very highly. Students who had not studied another culture in depth had great difficulty in analyzing, so that their essays on the exam in this subject included description, rather than analysis, and a lack of specificity in identification. Art beyond the European tradition is part of the curriculum for this course. If it is not included, both qualitatively and quantitatively, a student's course work is incomplete.
- On the AP Art History Exam, students should be encouraged to *read* the question, to think, and to plan a response before writing, especially in the longer essay questions. They need to be reminded again and again to answer the question *asked*, rather than the question they wish they had been asked.
- The AP Art History course requires students to *apply* art historical skills and knowledge rather than merely reproduce what they have learned. Thus, teachers should consider students' acquisition of knowledge to constitute only half of this course. The skills acquired in thinking critically, building arguments, and actively writing about art are absolutely essential to success in art history at the college level.

AP Biology

**AP Biology
Number of Exams, 2002–2006**



**AP Biology
Examinees by Grade Level, 2006**



Exemplary AP Biology Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Biology.

Small-size school (<300 students in grades 10–12):
SAR High School (Riverdale, NY)

- Head of School: Rabbi Tully Harcsztark
- AP Teacher: Robert S. Goodman
- Teacher of Foundation Courses: Tobie Brandriss

Medium-size school (300–799 students in grades 10–12):
Oxford Academy (Cypress, CA)

- Head of School: Kathy Scott
- AP Teachers: Dan Cullinane, Jin Chang
- Teacher of Foundation Courses: Robert Nguyen

Large-size school (800+ students in grades 10–12):
Monta Vista High School (Cupertino, CA)

- Head of School: April Scott
- AP Teacher: Pamela Tsai

School with the Largest Number of African American Students Scoring 3+:
Brooklyn Technical High School (Brooklyn, NY)

- Head of School: Randy J. Asher
- AP Teachers: Stephanie Tzall, Mike Harber, Louis Morgan, Jerry Snowwhite, Maxine Stein

School with the Largest Number of Latino Students Scoring 3+:
El Rancho High School (Pico Rivera, CA)

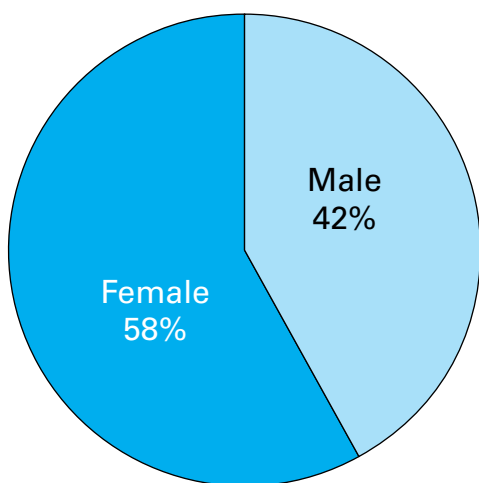
- Head of School: Julie Ellis
- AP Teacher: Claire Katsumura

AP Grade Distribution, 2006

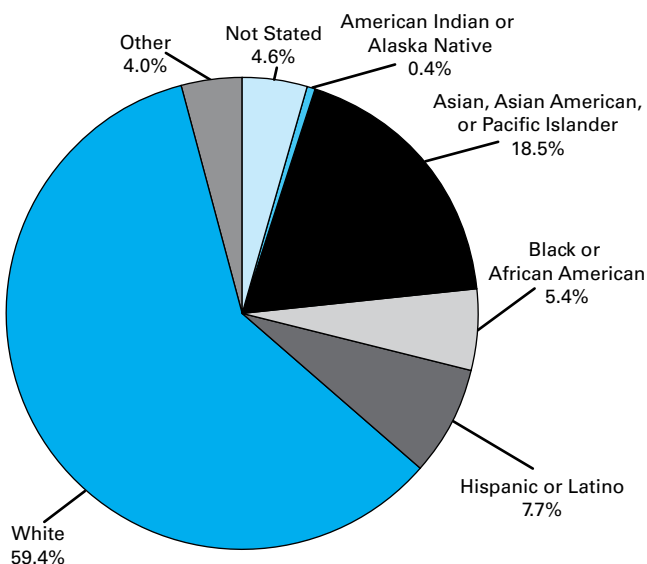
Exam Grade	Number of Examinees	%
Score of 5	25,862	19.6%
Score of 4	26,809	20.3%
Score of 3	27,897	21.2%
Score of 2	30,642	23.3%
Score of 1	20,573	15.6%
	131,783	100.0%

Number of Schools Offering This Course: 8,111

**AP Biology
Examinees by Gender, 2006**



**AP Biology
Examinees by Race and Ethnicity, 2006**

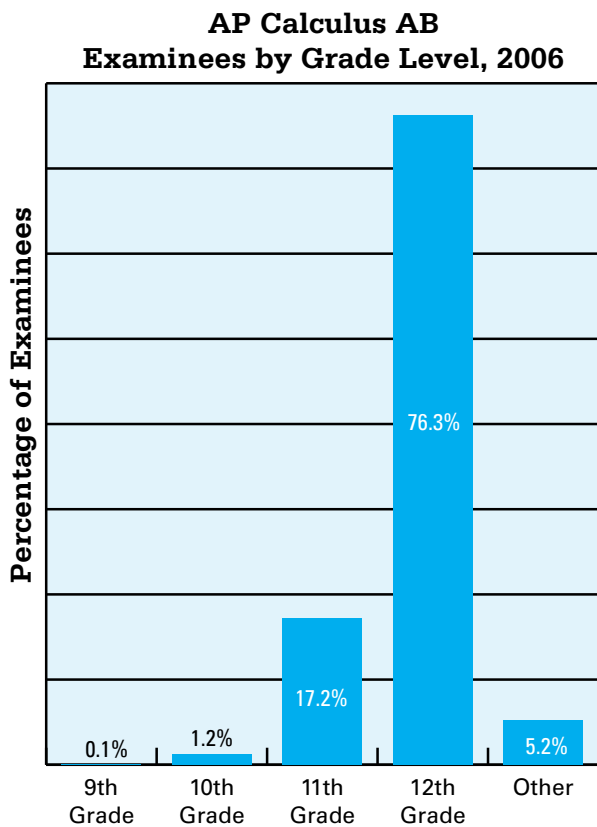
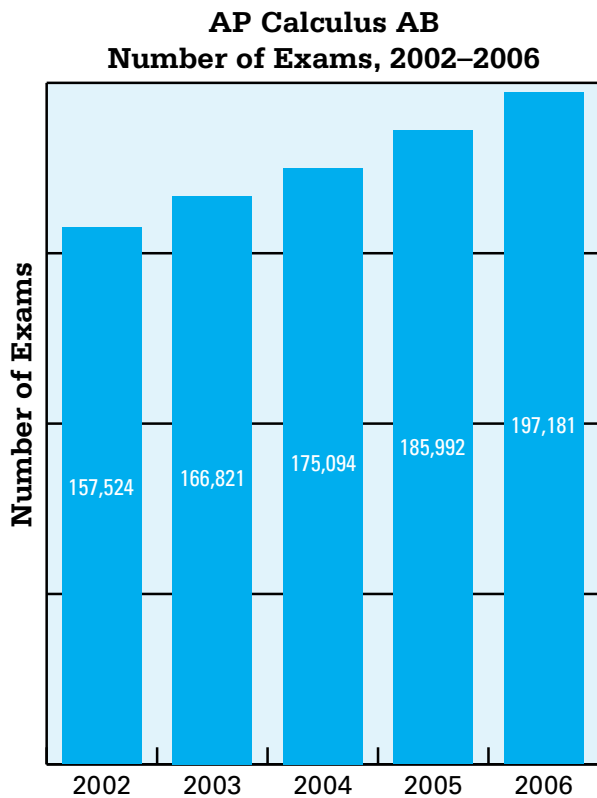


Feedback for Educators

The following observations on student learning in this AP course are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

- When questions ask for “differences,” students should make explicit references to both items being contrasted. For example, if comparing the structure of eukaryotic and prokaryotic DNA, they should state that prokaryotic DNA is circular, *but* eukaryotic DNA is linear. It is not sufficient to say that prokaryotic DNA is circular. When students use metaphors (e.g. “mitochondria are the powerhouses of the cell”), they should realize that no points will be earned without an explanation of what this metaphor means.
- Emphasize to students the long time periods required for evolutionary change at the population level of complex organisms and that it extends far beyond a human life span.
- Emphasis on overarching themes in ecology would provide an explanatory context for students that would allow a deeper understanding of species interactions.
- Require students to use concise definitions of terms within the context of the question to convey their understandings to the Reader. Saying that the dead cells of the xylem function as small tubes, for instance, is far superior to simply mentioning xylem.
- Teachers should emphasize the distinction between CAM and C⁴, perhaps teaching CAM first, followed by C⁴.
- In the transpiration lab, students should be given the opportunity to relate the results to how plants function within natural environments.
- Be cautious with students about making analogies between plants and animals (e.g., “stomata are like the loops of Henle,” “transpiration is like sweat,” or “xylem tubes are like arteries”), because students tend to accept these too literally.
- Direct students not to repeat the question when responding. Urge them to use the reading period to read carefully for content and to identify key points of the question, and not to include extraneous information. Salient points should be described separately, rather than lumped together.
- Emphasize to students the interaction of structure and function.

AP Calculus AB



Exemplary AP Calculus AB Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Calculus AB.

Small-size school (<300 students in grades 10–12):
Science and Engineering Magnet High School (Dallas, TX)

- Head of School: Richard White
- AP Teachers: Betty Aday, Rita Hines
- Teachers of Foundation Courses: Glenn Samford, Larry Wilson, Sue Ellen Smith, Deborah Floyd, Kechukwo Uyochukwu

Medium-size school (300–799 students in grades 10–12):
Georgetown Preparatory School (North Bethesda, MD)

- Head of School: Edward M. Kowalchick
- AP Teachers: Tim Wisecarver, Brian Maloney
- Teachers of Foundation Courses: Rev. Aloysius C. Galvin, S.J., Kieran McMillen, Patrick Winter

Large-size school (800+ students in grades 10–12):
Diamond Bar High School (Diamond Bar, CA)

- Head of School: Denis Paul
- AP Teachers: Diane Tobar, Jeff Brose, Lois Campbell, Latitia Thomas
- Teachers of Foundation Courses: Margaret Chu, Shari DeCambra, Michelle Hansen, Peter Kottke, Jimmy Kuo, Pauline Lain, Dena Lordi, Hana Matloub, Tony McCabe, Maureen Baiz, Kent Neil, Les Schaefer, Brian Wiencek

School with the Largest Number of African American Students Scoring 3+: Southwest DeKalb High School (Decatur, GA)

- Head of School: John Prince
- AP Teacher: Eric Ritenour

School with the Largest Number of Latino Students Scoring 3+: Science and Engineering Magnet High School (Dallas, TX)

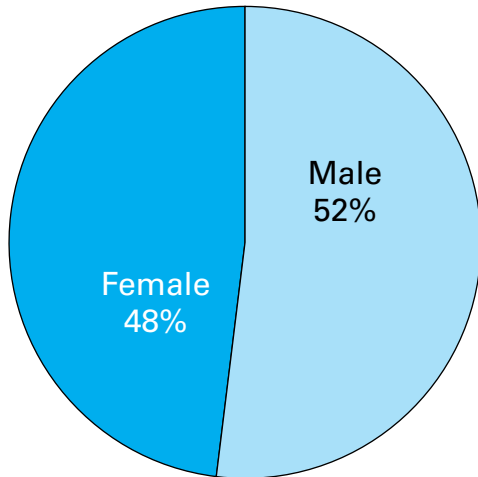
- Head of School: Richard White
- AP Teachers: Betty Aday, Rita Hines
- Teachers of Foundation Courses: Glenn Samford, Larry Wilson, Sue Ellen Smith, Deborah Floyd, Kechukwo Uyochukwu

AP Grade Distribution, 2006

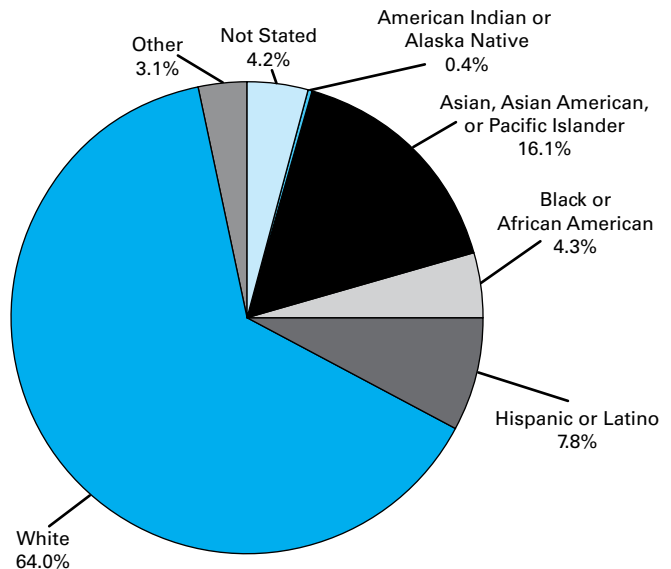
Exam Grade	Number of Examinees	%
Score of 5	43,925	22.3%
Score of 4	40,353	20.5%
Score of 3	36,627	18.6%
Score of 2	30,486	15.5%
Score of 1	45,790	23.2%
	197,181	100.0%

Number of Schools Offering This Course: 11,526

**AP Calculus AB
Examinees by Gender, 2006**



**AP Calculus AB
Examinees by Race and Ethnicity, 2006**

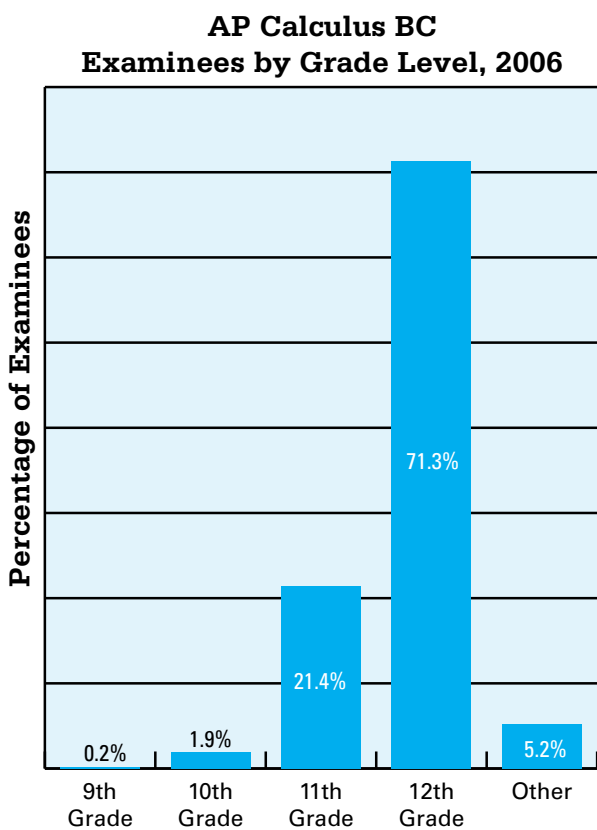
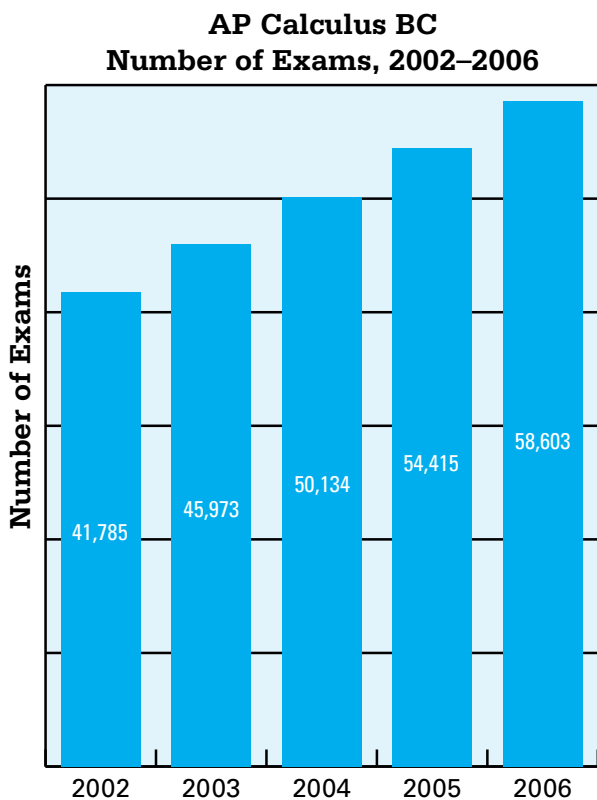


Feedback for Educators

The following observations on student learning in this AP course are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

- Continue to encourage students to practice finding the volume of solids formed by rotating a region about a line other than a coordinate axis.
- Remind students to show their work and to use correct mathematical language. Specifically, students must remember to present all information as they set up integrals in the calculator-active problems. For example, neglecting to include the limits of integration can be quite costly.
- Teachers need to present students with more nontraditional problems that involve critical thinking.
- Students need to learn to justify their results based on the information given in the problem.
- Students need to improve their ability to interpret graphical data.
- Emphasize the connection between finding the solution to a differential equation with a given condition and the domain of the solution.

AP Calculus BC



Exemplary AP Calculus BC Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Calculus BC.

Small-size school (<300 students in grades 10–12):
Science and Engineering Magnet High School (Dallas, TX)

- Head of School: Richard White
- AP Teachers: Dorinda Rickels, Glenn Samford
- Teachers of Foundation Courses: Betty Aday, Larry Wilson, Sue Ellen Smith, Deborah Floyd, Kechukwu Uyechukwu, Rita Hines

Medium-size school (300–799 students in grades 10–12):
North Carolina School of Science and Mathematics (Durham, NC)

- Head of School: Dr. Gerald Boarman
- AP Teachers: Dot Doyle, Helen Compton, Tamar Castelloe, Cheryl Gann, Julie Graves, Maria Hernandez, Philip Rash

Large-size school (800+ students in grades 10–12):
Thomas Jefferson High School for Science and Technology (Alexandria, VA)

- Head of School: Evan Glazer, Ph.D.
- AP Teachers: Cathy Eagen, Krista Parnell, Patricia Gabriel, Myra Spoden, Sharon Webb
- Teachers of Foundation Courses: Patricia Montgomery, Jerry Berry, Cathy Eagen, Jayne Munoz, Michael Stueben, MaryAnn Donohue

School with the Largest Number of Latino Students Scoring 3+:
Cypress Bay High School (Weston, FL)

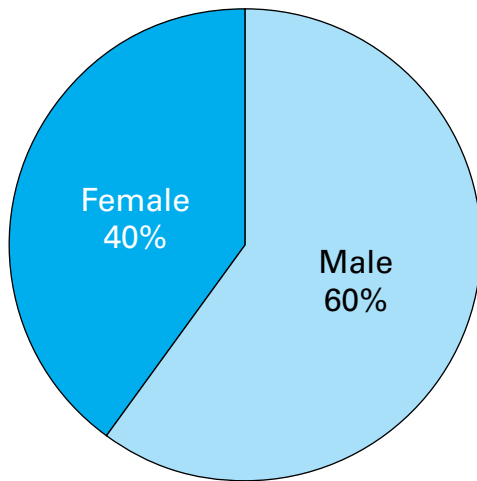
- Head of School: Charles Scott Neely
- AP Teacher: Mayra Irizarry
- Teachers of Foundation Courses: Bruce Peterson, Arleen Moran, Marisol Amoedo, Andrea Egan, Marianela Estripeaut, Christina Harden-Moros, Richard Farmer, Laszlo Nagy

AP Grade Distribution, 2006

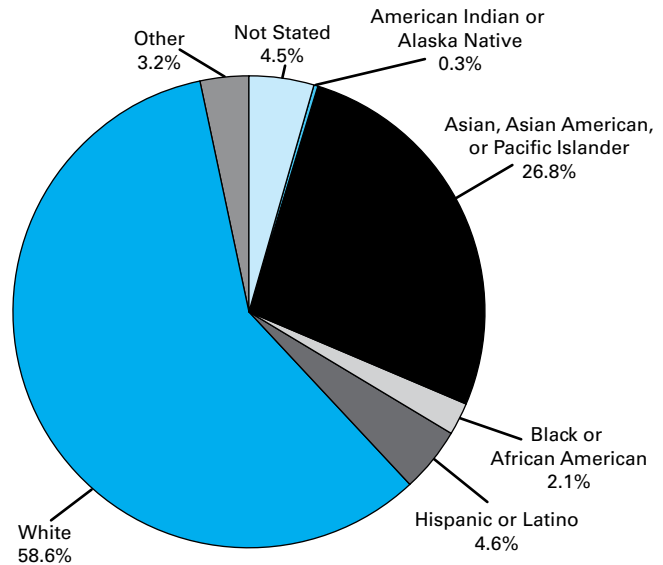
Exam Grade	Number of Examinees	%
Score of 5	24,561	41.9%
Score of 4	11,524	19.7%
Score of 3	11,537	19.7%
Score of 2	3,756	6.4%
Score of 1	7,225	12.3%
	58,603	100.0%

Number of Schools Offering This Course: 4,371

**AP Calculus BC
Examinees by Gender, 2006**



**AP Calculus BC
Examinees by Race and Ethnicity, 2006**



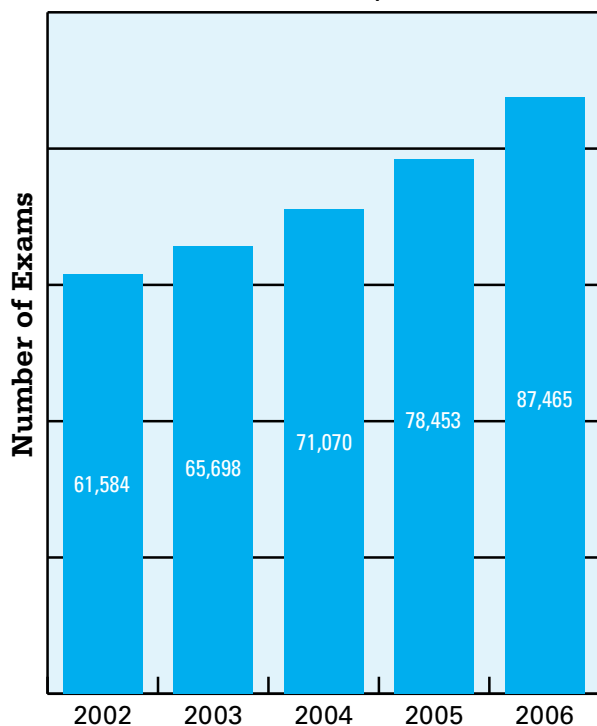
Feedback for Educators

The following observations on student learning in this AP course are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

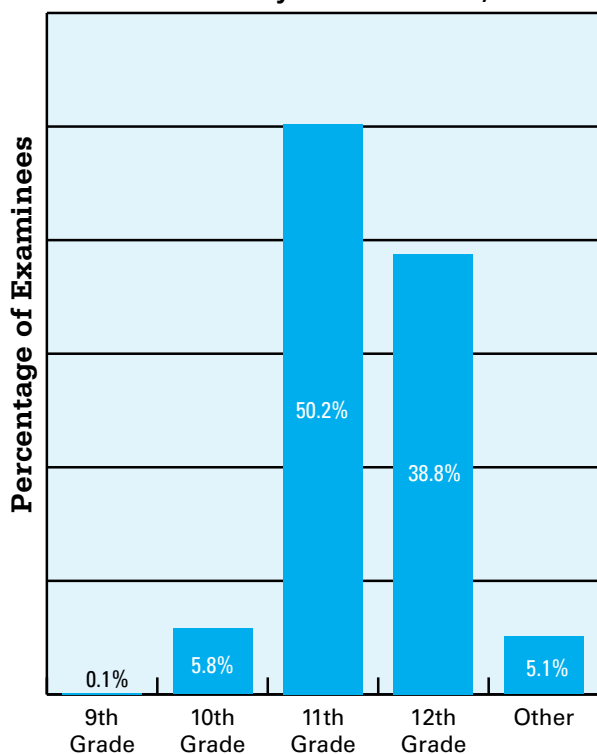
- Teachers should emphasize the connections between topics learned in the course. This will help students understand the relationships among accumulation functions, the Fundamental Theorem of Calculus, improper integrals, limits, and horizontal asymptotes. The synthesis of all of these ideas may be necessary in order for a student to successfully complete a given problem.
- Students need to develop both specific methods and the conceptual understanding of topics in the AP course. If students are encouraged simply to memorize a formula for a Taylor polynomial or a chart set up for Euler's method without having the conceptual understanding of these approximation methods, the students are not well prepared to explain their work on the AP Exam.
- Mathematical communication is very important. Students must communicate their understanding of the problem and their solution in a clear and correct manner.
- Students must understand that infinite series involve an infinite expression and should never truncate an infinite series. Students should be familiar with the ellipsis notation (i.e., ...) when solving problems that involve infinite series.

AP Chemistry

**AP Chemistry
Number of Exams, 2002–2006**



**AP Chemistry
Examinees by Grade Level, 2006**



Exemplary AP Chemistry Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Chemistry.

Small-size school (<300 students in grades 10–12):
Oklahoma School of Science and Mathematics (Oklahoma City, OK)

- Head of School: Edna McDuffie Manning
- AP Teachers: Dr. Nelson Daniel, Dr. Jan Post, Dr. Fazlur Rahmn
- Teachers of Foundation Courses: Tony Cornforth, Chengde Feng, Yunhua Feng, John Gleason, Dr. Taras Odushkin, Daryl Schwerdtfeger, Dr. Edna McDuffie Manning, Dr. Frank Wang, Dr. Adrian Zimmer

Medium-size school (300–799 students in grades 10–12):
North Carolina School of Science and Mathematics (Durham, NC)

- Head of School: Dr. Gerald Boarman
- AP Teachers: Sarah Allen, Guido Gabbrielli, Myra Halpin, Chuck Roser, Emily Maxwell

Large-size school (800+ students in grades 10–12):
Thomas Jefferson High School for Science and Technology (Alexandria, VA)

- Head of School: Evan Glazer, Ph.D.
- AP Teachers: Omar Acio, Ashley Jones
- Teachers of Foundation Courses: Sandra Chhabra, Kendal Orenstein, Patricia Maturo, Omar Acio

School with the Largest Number of African American Students Scoring 3+: Eleanor Roosevelt High School (Greenbelt, MD)

- Head of School: Sylvester Conyers
- AP Teacher: Coit Hendley

School with the Largest Number of Latino Students Scoring 3+:
Miami Coral Park Senior High School (Miami, FL)

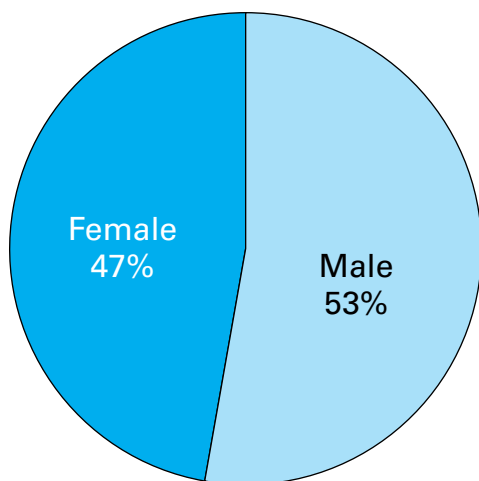
- Head of School: Dr. Nick JacAngelo
- AP Teacher: Michael Mosaku

AP Grade Distribution, 2006

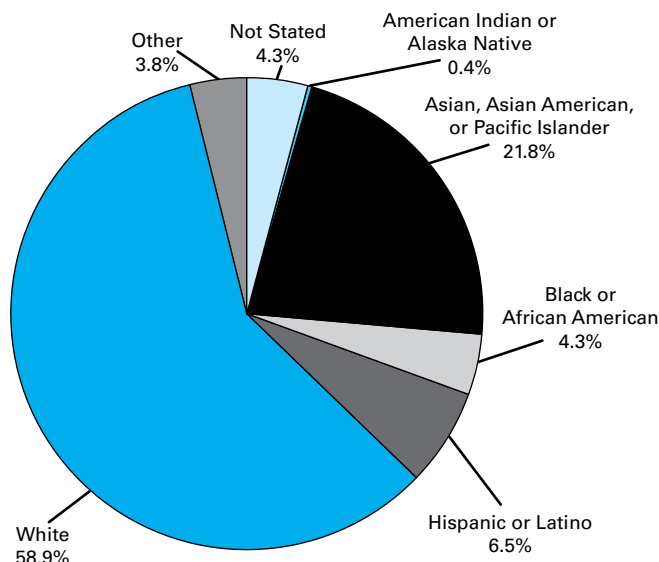
Exam Grade	Number of Examinees	%
Score of 5	14,837	17.0%
Score of 4	16,114	18.4%
Score of 3	19,597	22.4%
Score of 2	15,471	17.7%
Score of 1	21,446	24.5%
	87,465	100.0%

Number of Schools Offering This Course: 6,493

**AP Chemistry
Examinees by Gender, 2006**



**AP Chemistry
Examinees by Race and Ethnicity, 2006**



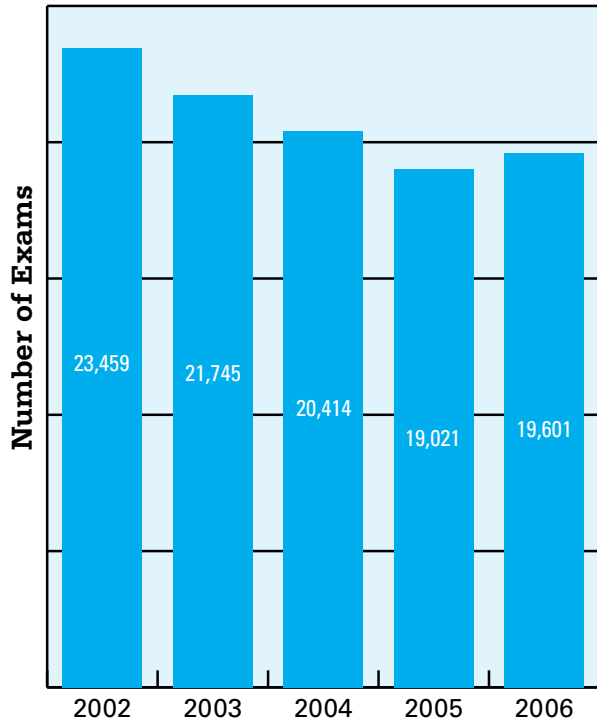
Feedback for Educators

The following observations on student learning in this AP course are derived from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

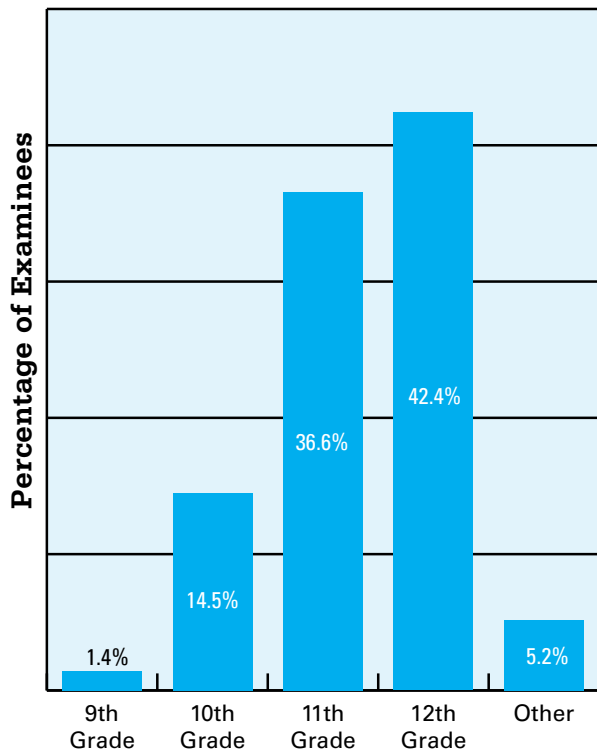
- Require students to show all their work in all parts of a problem in a neat and organized fashion. It is helpful if the work follows a logical progression so that it is clear to the Reader where a number comes from. Many students earn zeros due to lack of work. Correct answers miraculously appearing on a paper with incorrect work received no credit. On a calculation problem, showing work does NOT mean writing a paragraph explaining the steps done in the calculation.
- Remind students not to round internally in an answer. Significant errors can be introduced by rounding at inappropriate times in the calculation. These errors are compounded in subsequent calculations requiring use of that answer.
- Caution students to be careful and double-check for reasonable answers. For example, if a student subtracts and gets a negative mass or calculates a molar mass less than the empirical mass, the student should recheck the work.
- Have students practice with a variety of problems from various types of data. For example, when given lab data to 0.001 g, students should use atomic molar masses with significant figures to match or exceed those in the given data. In solving this problem, students need to use one- or two-decimal digits given on the periodic table provided for the exam to find the number of moles—not molar masses of 12, 16, etc. It would be helpful if students were familiar with this table and used it all year.
- Remind students to carefully check their work. Many simple mathematical errors were made, including transposing digits or just dropping digits. For instance, a student would use 2.24 grams of CO_2 when 2.241 grams was given. Several students incorrectly rearranged the equation $PV = nRt$ when trying to find the molar mass.
- Make sure students clearly understand the difference between an empirical mass and molar mass.
- Practice time management skills and give timed practice tests so students are familiar with the pace at which they must work to complete this section. It was very apparent that many students ran out of time with their calculators and could not finish the problem.

AP Computer Science A and AB¹¹

**AP Computer Science A and AB
Number of Exams, 2002–2006**



**AP Computer Science A and AB
Examinees by Grade Level, 2006**



Exemplary AP Computer Science A and AB Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Computer Science A and AB.

Small-size school (<300 students in grades 10–12):
School for the Talented and Gifted Magnet High School (Dallas, TX)

- Head of School: F. Michael Satarino
- AP Teacher: Robert Glen Martin

Medium-size school (300–799 students in grades 10–12):
Edgemont High School (Scarsdale, NY)

- Head of School: William Manfredonia
- AP Teacher: Martin Rosenberg

Large-size school (800+ students in grades 10–12):
Troy High School (Fullerton, CA)

- Head of School: Margaret Buchan
- AP Teachers: Don Allen, Joe Coglianese, Mike Reid
- Teachers of Foundation Courses: Kent Goodman, Paul Rodriguez, Stephen Grack, Laurie Downum

School with the Largest Number of Latino Students Scoring 3+:
Science and Engineering Magnet High School (Dallas, TX)

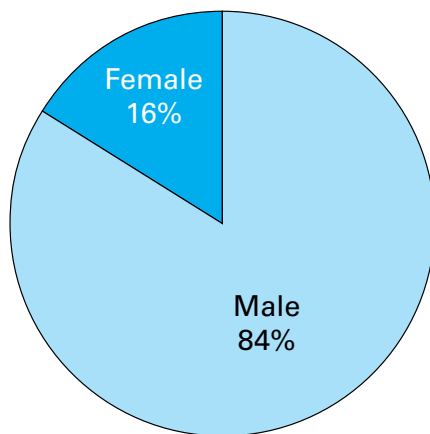
- Head of School: Richard White
- AP Teacher: Bradley Beth
- Teacher of Foundation Courses: Jeremy Graham

AP Grade Distribution, 2006

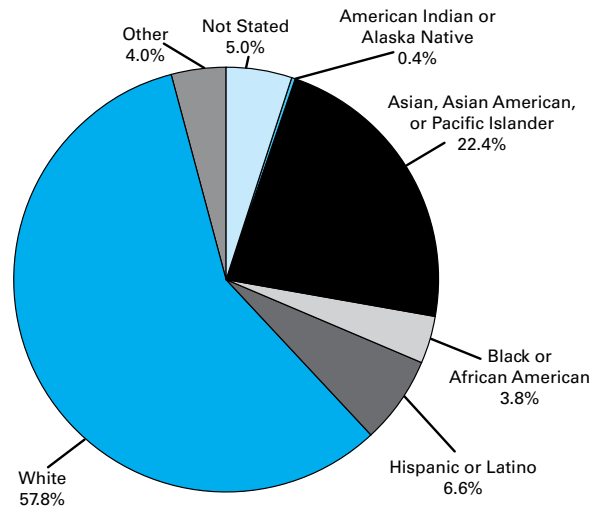
Exam Grade	Number of Examinees	%
Score of 5	4,879	24.9%
Score of 4	4,227	21.6%
Score of 3	2,962	15.1%
Score of 2	1,593	8.1%
Score of 1	5,940	30.3%
	19,601	100.0%

Number of Schools Offering This Course: 2,491

**AP Computer Science A and AB
Examinees by Gender, 2006**



**AP Computer Science A and AB
Examinees by Race and Ethnicity, 2006**



Feedback for Educators

Computer Science A:

The following observations on student learning in this AP course are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

- Students must be comfortable with interacting classes, including examples where a simple class is provided and another class stores and manipulates objects of that class.
- Students need to be careful in distinguishing between ArrayLists and arrays, and they need to recognize that removing an element from an ArrayList shifts subsequent elements down and thus may require special care during a traversal.
- Teachers who are not covering the case study or who are relegating it to the very end of the year need to recognize its importance.
- In general, students need to be more comfortable with inheritance and polymorphism. They need to see examples of inheritance hierarchies and be able to recognize when fields and methods can be inherited and when they need to be overridden.
- Students should be comfortable reading detailed algorithm descriptions and making the low-level design necessary to implement algorithms.

Computer Science AB:

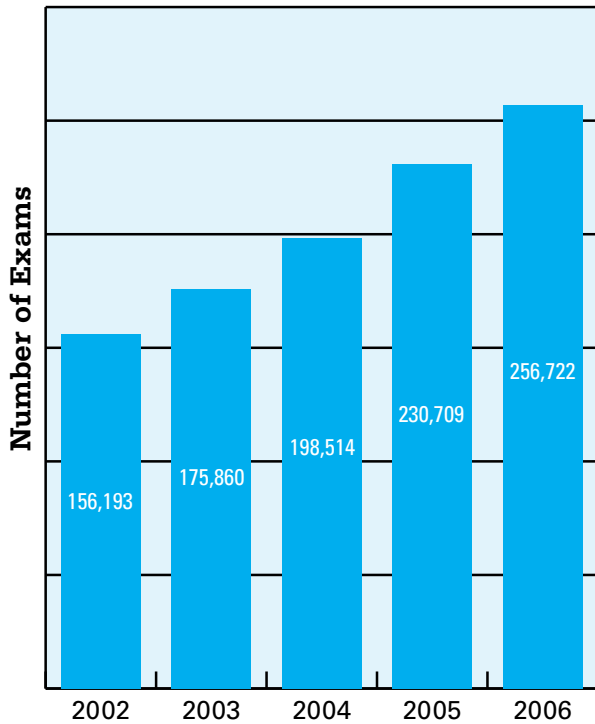
The following observations on student learning in this AP course are excerpted from the Chief Reader's commentary on student performance, which is available

in its entirety as a free download from the AP Central Web site.

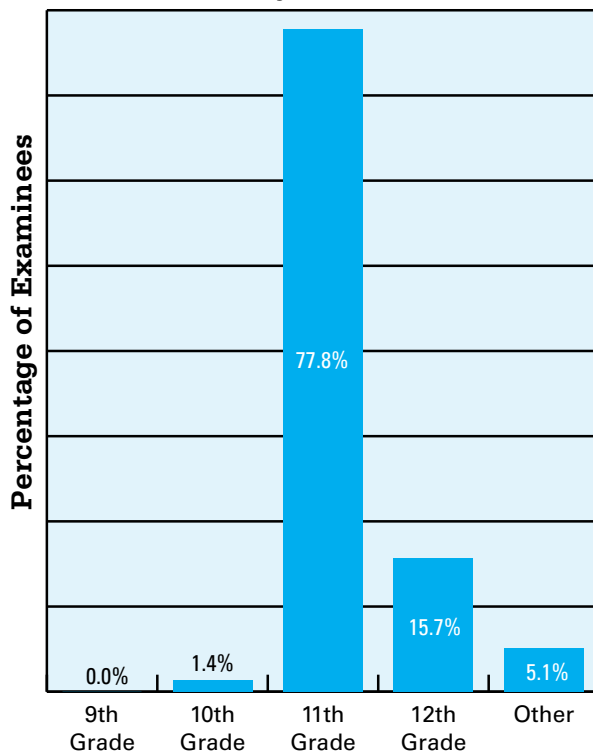
- Continue to emphasize the Java Collection classes. Students need to know how to construct collections and use methods to access and update the collections.
- The difference between interfaces (e.g., Set and List) and classes (e.g., HashSet and LinkedList) needs to be better understood by students.
- Teachers who are not covering the case study or who are relegating it to the very end of the year need to recognize its importance.
- Students should be aware that design may be combined with more complicated algorithms and performance analysis.
- The role of polymorphism in design, particularly in creating general-purpose collections from a class hierarchy, should be understood and appreciated by students.
- Students need to realize that instances of a class can access private fields and methods of other instances of the class. This is not a bug or a unique feature of Java—many methods (e.g., compareTo, equals) would be impossible to write without this feature.
- Recursion continues to be a difficult topic for many students, especially when used in a nonstandard way. Recursion needs to be seen as more than just a way of traversing a tree or implementing quick sort. In general, students should be prepared for exam questions where a complex algorithm is described and they are asked to implement it.

AP English Language and Composition

**AP English Language and Composition
Number of Exams, 2002–2006**



**AP English Language and Composition
Examinees by Grade Level, 2006**



Exemplary AP English Language and Composition Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP English Language and Composition.

Small-size school (<300 students in grades 10–12):
South Carolina Governor’s School for Science and Mathematics (Hartsville, SC)

- Head of School: Dr. Murray Brockman
- AP Teachers: Dr. Roy Flannagan, Alexander Coleman

Medium-size school (300–799 students in grades 10–12):
Oxford Academy (Cypress, CA)

- Head of School: Kathy Scott
- AP Teacher: Kasey Spencer
- Teachers of Foundation Courses: Robert Meloche, Diane Erickson

Large-size school (800+ students in grades 10–12):
Harvard-Westlake School (North Hollywood, CA)

- Head of School: Jeanne M. Huybrechts
- AP Teachers: Jeremy Michaelson, Eric Schrode, Jennifer Raphael, Jeffrey Kwinty, Jocelyn Medawar-Turner, Martha Wheelock

School with the Largest Number of African American Students Scoring 3+: Southwest DeKalb High School (Decatur, GA)

- Head of School: John Prince
- AP Teacher: Patricia Weeks

School with the Largest Number of Latino Students Scoring 3+: Coral Reef Senior High School (Miami, FL)

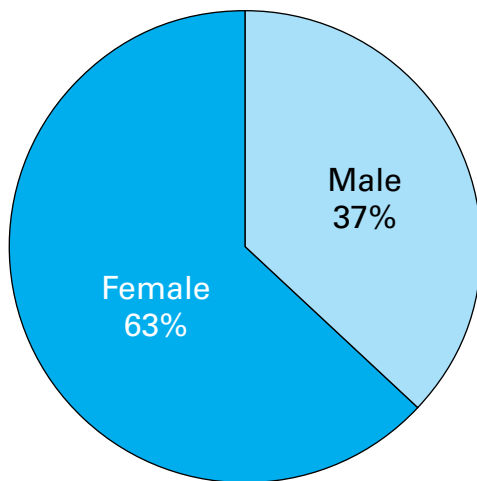
- Head of School: Adrienne Leal
- AP Teachers: Arline Margolis, Gina Marmol, David Menasche, Lourdes Miller-Gomez

AP Grade Distribution, 2006

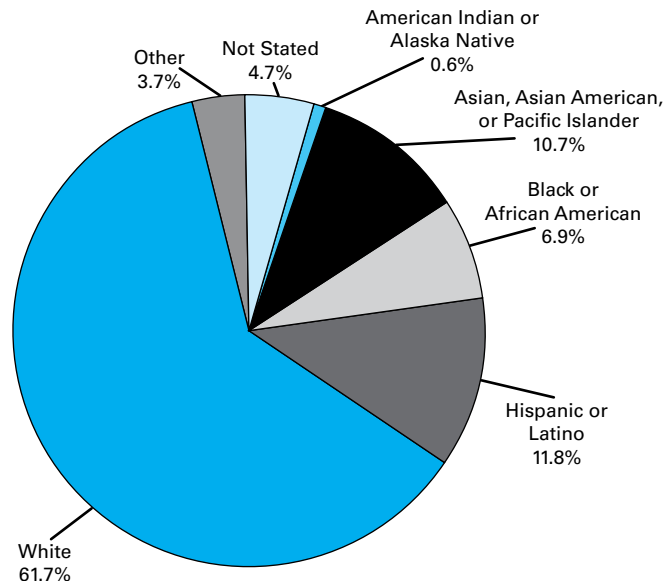
Exam Grade	Number of Examinees	%
Score of 5	13,850	5.4%
Score of 4	40,728	15.9%
Score of 3	76,107	29.6%
Score of 2	94,093	36.7%
Score of 1	31,944	12.4%
	256,722	100.0%

Number of Schools Offering This Course: 8,168

AP English Language and Composition Examinees by Gender, 2006



AP English Language and Composition Examinees by Race and Ethnicity, 2006



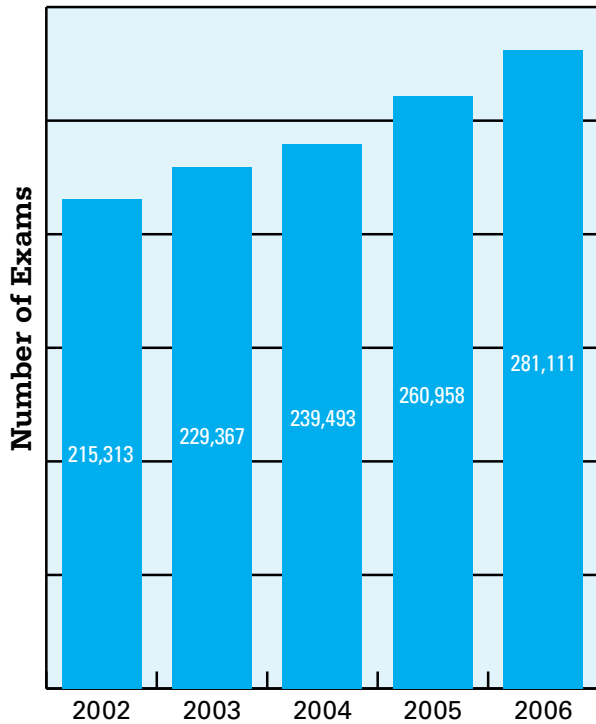
Feedback for Educators

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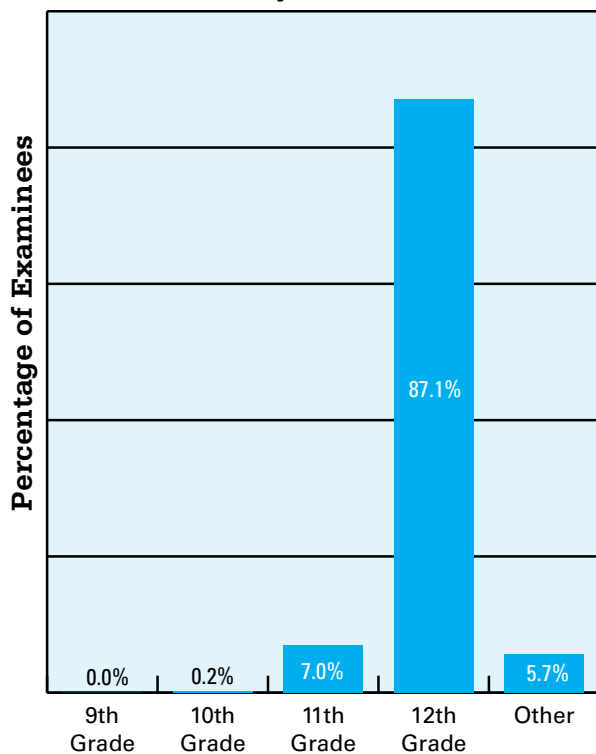
- Teach students to read complex analytic and argumentative prose, such as that published in contemporary magazines and journals.
- Help students achieve a deeper understanding of how the organization, structure, diction, and syntax of contemporary American nonfiction prose manifests a text's meaning and purpose.
- Students need to comprehend archaic (pre-20th-century) prose by identifying the meanings of terms in context, as such prose is frequently encountered in college courses.
- Teach students about rhetorical theory and analysis, so that they understand concepts such as audience, purpose, occasion, tone, establishment of general contention, appeals to the author's character and credibility, appeals to audience's emotions, organization and structure, diction, syntax, imagery, and figurative language.
- Teach students to analyze the unity of argumentative texts: the way form follows function and the ways that organization, structure, form, and style relate to and support the establishment of meaning, purpose, and effect.
- Encourage students to read and write authoritatively about a range of current topics that engage the attention of well-educated people.
- Help write essays that thoughtfully interact with the audience, acknowledge that readers might not share the writer's values and beliefs, accommodate differing beliefs with appropriate explanation and evidence, and make the argument's logic transparent.
- Students must be able to find appropriate evidence for public discussions of current events and issues, recognizing that the literary works one reads for a course might not always provide the best evidence to support claims about such issues.

AP English Literature and Composition

**AP English Literature and Composition
Number of Exams, 2002–2006**



**AP English Literature and Composition
Examinees by Grade Level, 2006**



Exemplary AP English Literature and Composition Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP English Literature and Composition.

Small-size school (<300 students in grades 10–12):
School for Advanced Studies South (Miami, FL)

- Head of School: Guillermo Munoz
- AP Teacher: Belkis Cabrera

Medium-size school (300–799 students in grades 10–12):
The Blake School (Minneapolis, MN)

- Head of School: John Gulla
- AP Teachers: Mike Bazzett, Scott Hollander, Bryn Hennessy, Rick Cawood, Jeff Hansen
- Teachers of Foundation Courses: Lee Woolman, Kim Sy, Maria Michael, Lisa Sackreiter

Large-size school (800+ students in grades 10–12):
Harvard-Westlake School (North Hollywood, CA)

- Head of School: Jeanne M. Huybrechts
- AP Teachers: Geraldine Harding, Lisa Rado, Stephanie Yoo, Heath Moon, Eric Schrode, Laurence Weber

School with the Largest Number of African American Students Scoring 3+: Renaissance High School (Detroit, MI)

- Head of School: Deborah Harley
- AP Teacher: Dolores Davis
- Teachers of Foundation Courses: Flora Case, Jamie Tobin

School with the Largest Number of Latino Students Scoring 3+:
Coral Reef Senior High School (Miami, FL)

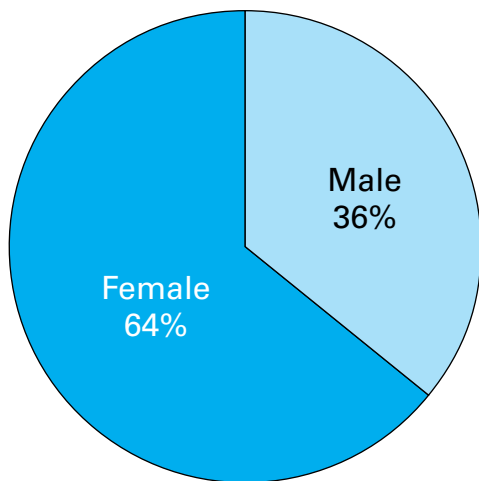
- Head of School: Adrienne Leal
- AP Teachers: Denise Arnold, Kevin Kasenow, Julio Macado, Reisa Plyler

AP Grade Distribution, 2006

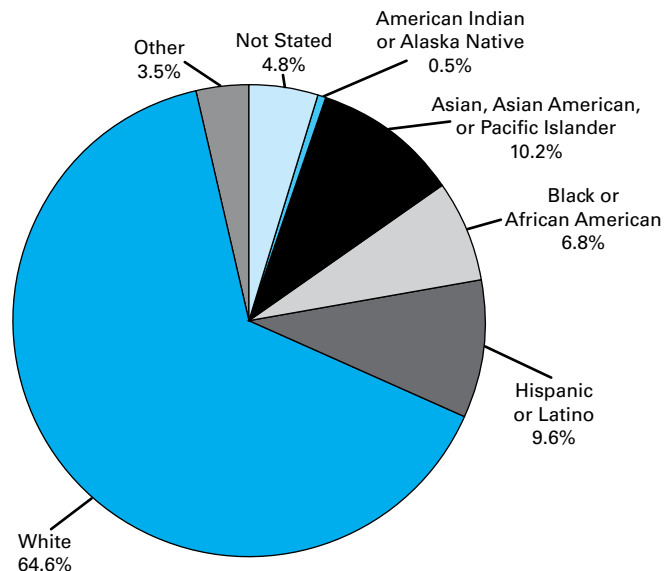
Exam Grade	Number of Examinees	%
Score of 5	19,890	7.1%
Score of 4	58,490	20.8%
Score of 3	96,309	34.3%
Score of 2	83,702	29.8%
Score of 1	22,720	8.1%
	281,111	100.0%

Number of Schools Offering This Course: 11,904

AP English Literature and Composition Examinees by Gender, 2006



AP English Literature and Composition Examinees by Race and Ethnicity, 2006



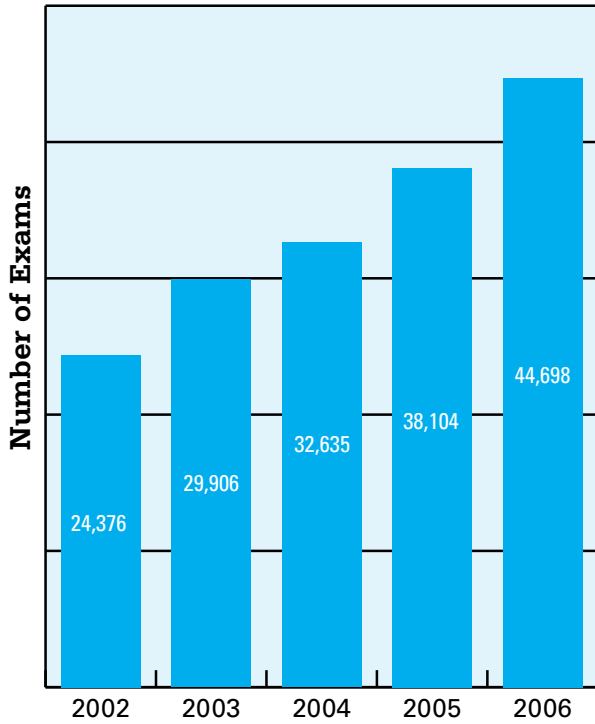
Feedback for Educators

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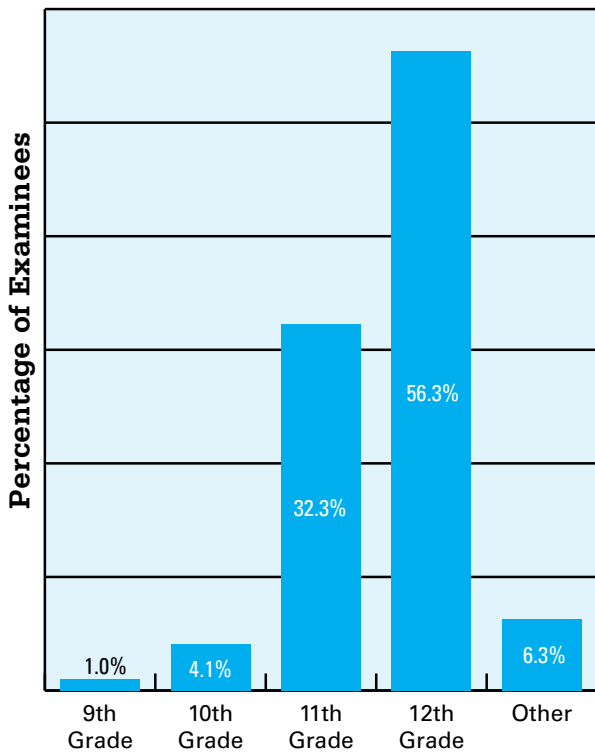
- Provide frequent opportunities for students to engage in close reading and explication of text.
- Provide frequent opportunities for reading, discussing, and analyzing poetry so that students can better understand poetic mechanics and connect language to meaning.
- Have students write frequently, and help them score the essays anonymously using the AP Exam scoring guidelines.
- Teach students to both recognize literary techniques and explain how those techniques contribute to meaning.
- Use texts from a variety of literary periods and demonstrate that, although conventions may differ, certain literary techniques and genres are commonly employed.
- Teach students to integrate and embed textual evidence into sentences and paragraphs and to avoid simplistic and bald assertions.
- Emphasize that mature thinking and writing recognize and explore the ambiguities and ironies of human existence.
- Utilize drama as a means of encouraging students to become active learners and readers; use drama as a tool for teaching *what if?*
- Students must recognize the difference between paraphrase or summary and analysis, and how to turn observations into an argument.
- Teach students to read exam prompts carefully, without preconceptions.
- Encourage students to use specific examples from texts, embedding that evidence in their writing.
- Provide students with opportunities to practice writing assignments that connect artistic strategies to societal problems, complex meanings, and values implied by form and language.
- If film versions of texts are used in classroom instruction, help students identify ways in which the film adapts, misuses, or distorts the primary text.
- Teach students that generalizations without detailed support, and paraphrasing without analysis, are serious flaws in an essay.

AP Environmental Science

**AP Environmental Science
Number of Exams, 2002–2006**



**AP Environmental Science
Examinees by Grade Level, 2006**



Exemplary AP Environmental Science Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Environmental Science.

Small-size school (<300 students in grades 10–12):

- Early College at Guilford (Greensboro, NC)
- Head of School: Tony Lamair Burks II
 - AP Teacher: Beverly V. Cea

Medium-size school (300–799 students in grades 10–12):

- Raleigh Charter High School (Raleigh, NC)
- Head of School: Thomas E. Humble
 - AP Teachers: Daniel F. Smith, Kevin Boyer

Large-size school (800+ students in grades 10–12):

- Harvard-Westlake School (North Hollywood, CA)
- Head of School: Jeanne M. Huybrechts
 - AP Teachers: Wendy Van Norden, Kathleen Moran, Dietrich Schuhl

School with the Largest Number of Latino Students Scoring 3+: Miami Palmetto Senior High School (Miami, FL)

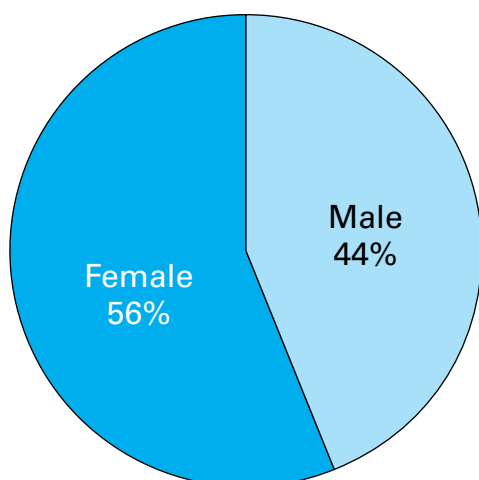
- Head of School: Howard I. Weiner
- AP Teacher: Pamela Shlachtman

AP Grade Distribution, 2006

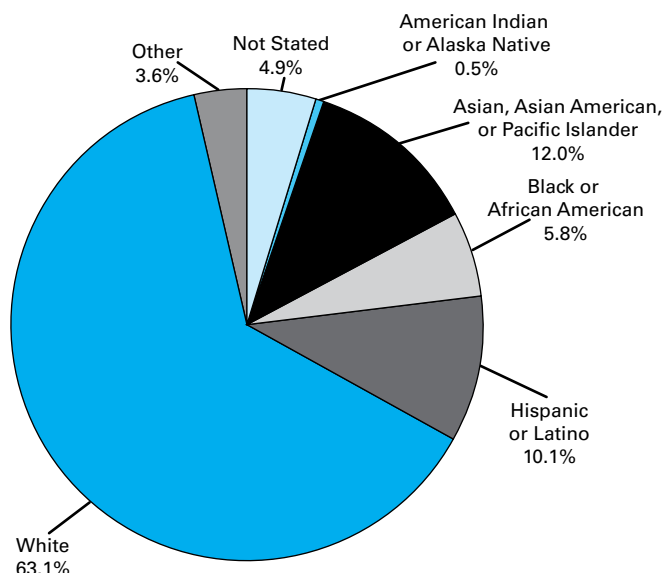
Exam Grade	Number of Examinees	%
Score of 5	4,171	9.3%
Score of 4	9,807	21.9%
Score of 3	8,591	19.2%
Score of 2	7,807	17.5%
Score of 1	14,322	32.0%
	44,698	100.0%

Number of Schools Offering This Course: 2,225

**AP Environmental Science
Examinees by Gender, 2006**



**AP Environmental Science
Examinees by Race and Ethnicity, 2006**



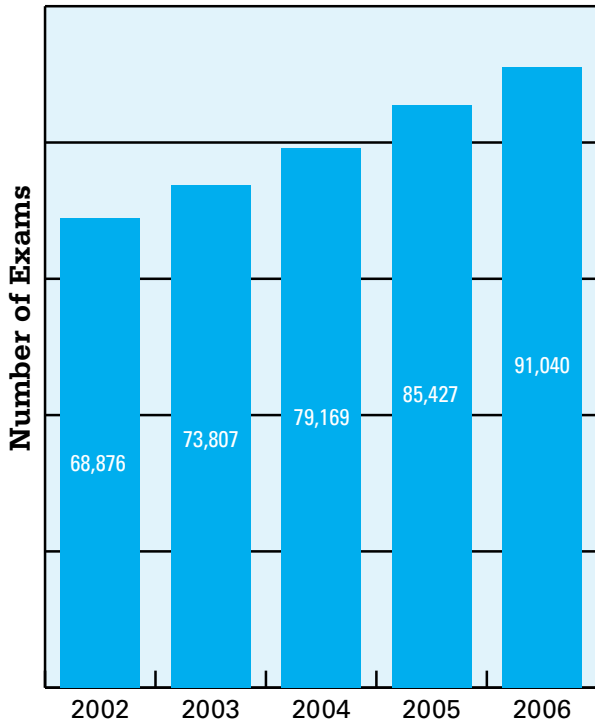
Feedback for Educators

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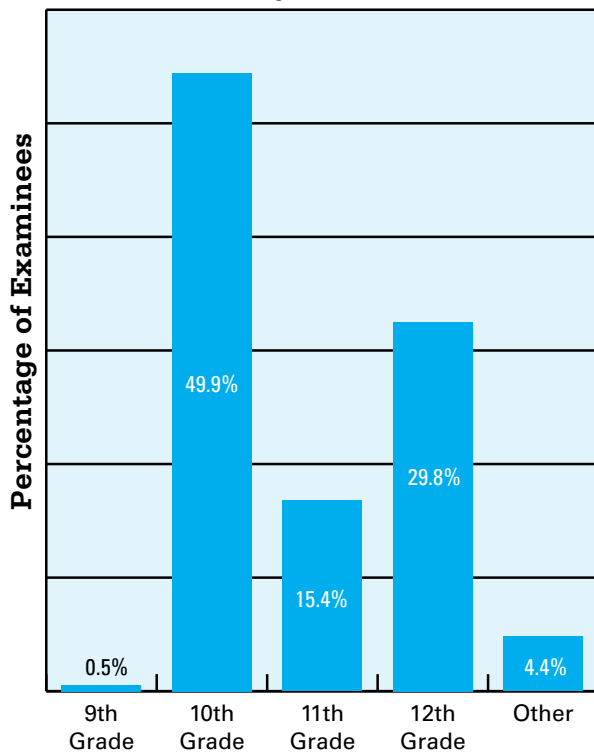
- Be sure that students engage in critical reading activities on a regular basis, utilizing case studies and news articles. Students should look at issues from a variety of perspectives and be able to support different positions. Simply extracting the relevant information given in a document and applying it to the appropriate section of a question can earn points.
- Make sure that students are familiar with the issues surrounding the use of solar energy, including at least a rudimentary understanding of the different types of solar energy systems, their respective benefits and costs, and their use and design.
- Work with students on graph interpretation and critical thinking related to graphs, including careful consideration of axes and units. They also need practice in dimensional analysis, scientific notation, simple mathematical operations without using a calculator, and the application of quantitative analysis to environmental problems. Remind them to show their work.
- Emphasize current climate change predictions so that students are better able to determine whether their calculation results are the correct order of magnitude.
- Encourage students to complete their thoughts and to be as factual and specific as possible. They should reread their answers and make sure that they are not restating the questions.
- Make it clear that if a question asks for two examples, students only list two; additional examples will not receive credit.
- Review the difference between environmental and economic benefits or effects.
- Include discussions of regulations and laws within the context of particular environmental issues or problems. Students should study environmental concerns, not just cause-and-effect issues—they should learn methods of problem solving, with an aim toward finding specific solutions and appropriate ways to manage conflicts.

AP European History

**AP European History
Number of Exams, 2002–2006**



**AP European History
Examinees by Grade Level, 2006**



Exemplary AP European History Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP European History.

Small-size school (<300 students in grades 10–12):

Keith Country Day School (Rockford, IL)

- Head of School: Jon S. Esler
- AP Teacher: Ronald C. Lee Jr.
- Teacher of Foundation Courses: Bradley Stott

Medium-size school (300–799 students in grades 10–12):

The Westminster School (Atlanta, GA)

- Head of School: Kevin Reel
- AP Teachers: David B. Drake, Wade Boggs, Jere Link
- Teachers of Foundation Courses: Rick Byrd, George Lamplugh, Jere Link, Ashton Richards, Jenny Heidt, Joe Tribble

Large-size school (800+ students in grades 10–12):

Stanton College Preparatory School (Jacksonville, FL)

- Head of School: Debra W. Lynch
- AP Teachers: Lara Audelo, Brian Heggood, Amanda Hohne, Dave Holcombe, Ana Shepard
- Teachers of Foundation Courses: Lara Audelo, Amanda Hohne, David Howard, Kristyn Hughes, Todd Hughes, Ana Shepard

School with the Largest Number of African American Students Scoring 3+: Stanton College Preparatory School (Jacksonville, FL)

- Head of School: Debra W. Lynch
- AP Teachers: Lara Audelo, Brian Heggood, Amanda Hohne, Dave Holcombe, Ana Shepard
- Teachers of Foundation Courses: Lara Audelo, Amanda Hohne, David Howard, Kristyn Hughes, Todd Hughes, Ana Shepard

School with the Largest Number of Latino Students Scoring 3+: Coral Reef Senior High School (Miami, FL)

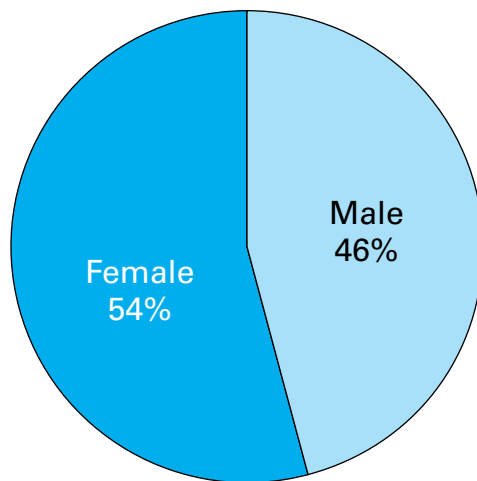
- Head of School: Adrienne Leal
- AP Teacher: Jamie Lee Green

AP Grade Distribution, 2006

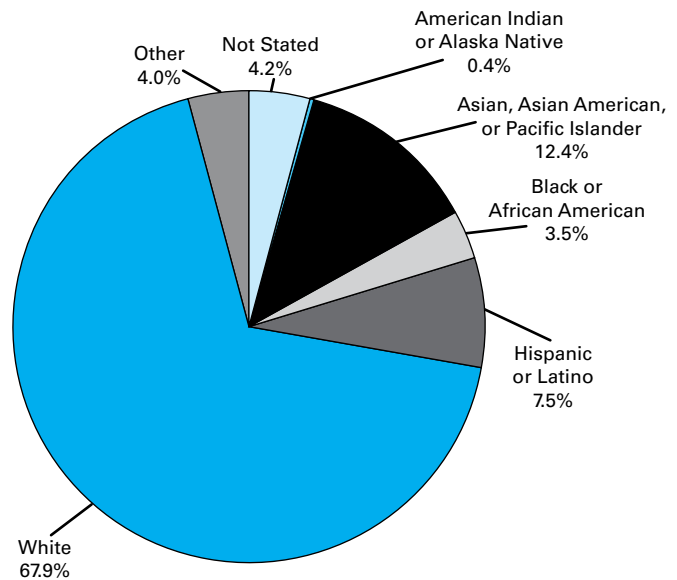
Exam Grade	Number of Examinees	%
Score of 5	10,885	12.0%
Score of 4	18,448	20.3%
Score of 3	33,557	36.9%
Score of 2	15,800	17.4%
Score of 1	12,350	13.6%
	91,040	100.0%

Number of Schools Offering This Course: 4,194

**AP European History
Examinees by Gender, 2006**



**AP European History
Examinees by Race and Ethnicity, 2006**



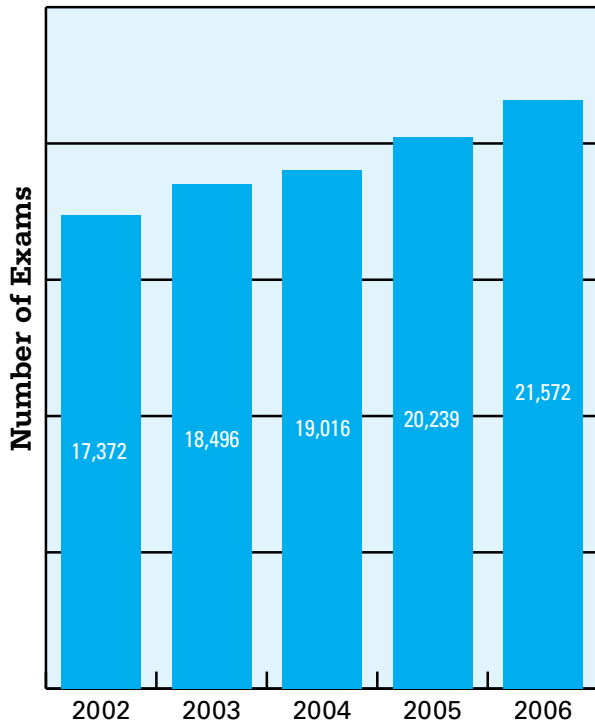
Feedback for Educators

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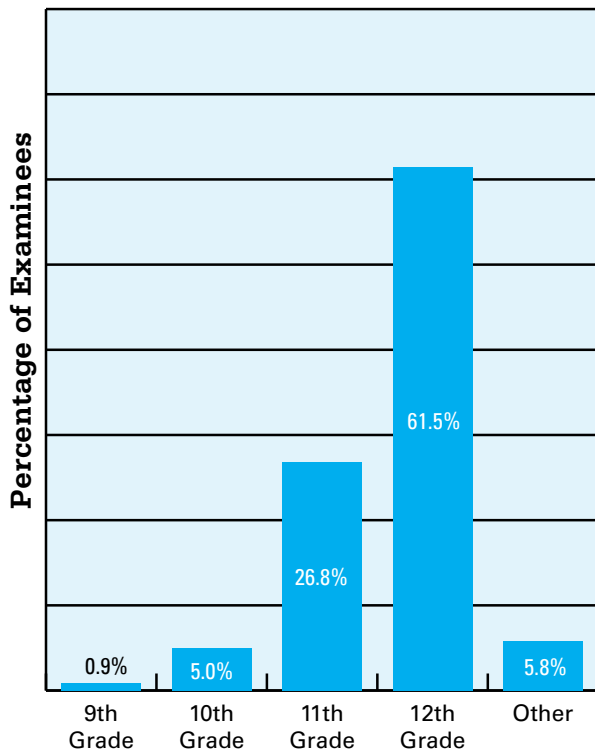
- Chronology—that is, knowing where to place an idea or a movement or an important historical figure—is a challenge for students. As much as possible, teachers should show students how to organize their learning about European history into time periods and help them to get a sense of the order in which cultural changes happened.
- Students will benefit from constant emphasis on both critical thinking and essay writing. In essay writing, students need to be taught how to address the question directly, how to develop a clear and strong thesis, and how to avoid generalized discussion. Also of particular importance in writing is learning how to analyze, rather than merely describe. Students need to understand that analysis means more than listing facts.
- On the AP Exam, students would benefit from being reminded to answer the question asked and to answer the *whole* question, not just a portion of it. Students should understand how important it is to spend some time planning their essays. By doing some prewriting or outlining, they will be better able to begin their responses with a specific thesis statement.
- Students need ongoing instruction in constructing effective point-of-view analysis; for example, they must be able to explain *why* a particular source expresses a particular point of view or bias, or *how* a source might have been intended for use. Using terms such as *bias* or *reliable* without sufficient explanation does not demonstrate analytical skill; similarly, simple attribution by itself provides no analysis.
- Grouping related primary source documents together is another issue that is sometimes problematic for students. On the AP Exam DBQ (document-based question) question, they must develop at least three explicit groupings (containing at least two documents each) that demonstrate analysis and advance an argument in the essay; arbitrary grouping often undermines the essay.

AP French Language

**AP French Language
Number of Exams, 2002–2006**



**AP French Language
Examinees by Grade Level, 2006**



Exemplary AP French Language Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP French Language.

Small-size school (<300 students in grades 10–12):

Convent of the Sacred Heart (New York, NY)

- Head of School: Patricia Hult
- AP Teachers: Françoise Noble, Barbara Pachetti
- Teacher of Foundation Courses: Andrea Sommer

Medium-size school (300–799 students in grades 10–12):

San Francisco University High School (San Francisco, CA)

- Head of School: Michael Diamonti
- AP Teacher: Pierre Larzul

Large-size school (800+ students in grades 10–12):

Thomas Jefferson High School for Science and Technology (Alexandria, VA)

- Head of School: Evan Glazer, Ph.D.
- AP Teachers: Luc Beekman, Lucy LaSalle, Genevieve Delfosse
- Teachers of Foundation Courses: Luc Beekman, Lucy LaSalle, Genevieve Delfosse

School with the Largest Number of Latino Students Scoring 3+:

Cypress Bay High School (Weston, FL)

- Head of School: Charles Scott Neely
- AP Teachers: Dr. Declan Lyons, Kassandra Gordon
- Teacher of Foundation Courses: Vivianne Adrien

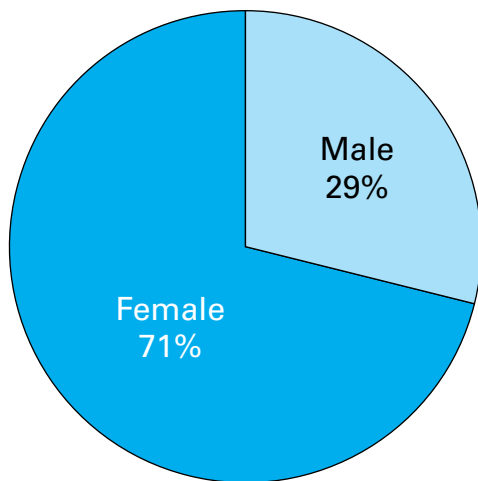
AP Grade Distribution, 2006

		Exam Grade	Number of Examinees	%
Standard Group*	Score of 5		1,030	6.2%
	Score of 4		2,317	13.9%
	Score of 3		4,794	28.8%
	Score of 2		4,011	24.1%
	Score of 1		4,471	26.9%
				16,623
Total Group	Score of 5		2,436	11.3%
	Score of 4		3,534	16.4%
	Score of 3		5,950	27.6%
	Score of 2		4,610	21.4%
	Score of 1		5,042	23.4%
				21,572

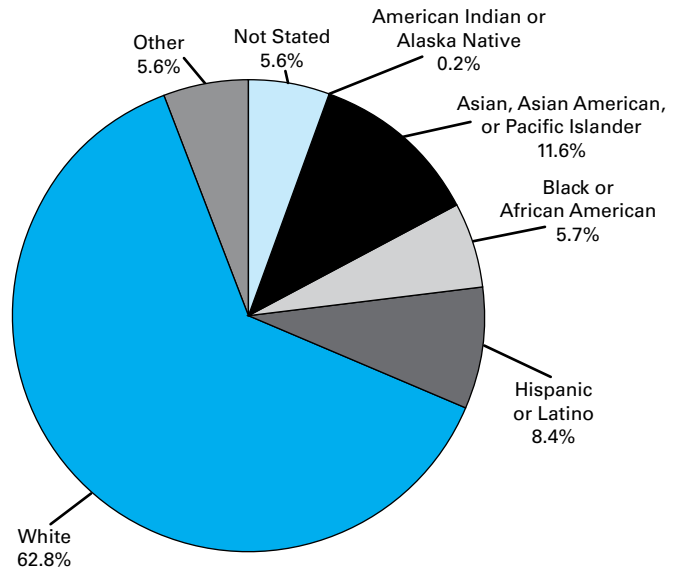
*Standard students generally receive most of their foreign language training in U.S. schools. They did not indicate on their answer sheet that they regularly speak or hear the foreign language of the examination, or that they have lived for one month or more in a country where the language is spoken.

Number of Schools Offering This Course: 3,501

**AP French Language
Examinees by Gender, 2006**



**AP French Language
Examinees by Race and Ethnicity, 2006**



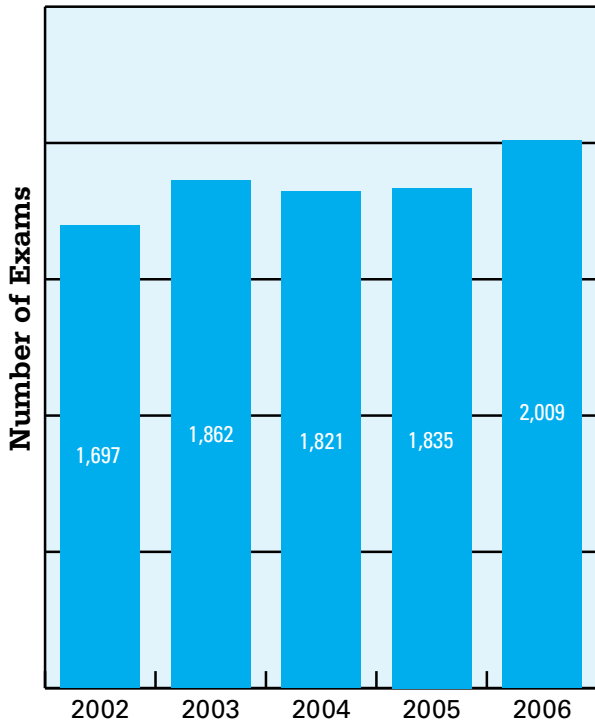
Feedback for Educators

The following observations on student learning in this AP course are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

- In order to maximize students' success on the function words section, teachers should always stress the importance of accents as part of spelling, and make sure that students read a lot of texts in standard French. In written passages and listening exercises, comment regularly on verbs and function words.
- Teachers should stress that the essay does not merely require an *answer*; it requires a *response*—that is, a reaction to the question that enables the student to demonstrate his or her capacity to write in depth and at length on a given topic.
- Attention to common spelling errors, clearly organizing the essay, making use of effective examples, and using appropriate connecting words are all areas that students should practice thoroughly in order to improve essay writing.
- Students' speaking skills can be improved by avoiding mere lists of vocabulary as responses. They should practice answers to more abstract questions and use appropriate transition words. Students should have a strong command of synonyms and antonyms, conditional clauses, and comparative and superlative structures.

AP French Literature

**AP French Literature
Number of Exams, 2002–2006**



Exemplary AP French Literature Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP French Literature.

Small-size school (<300 students in grades 10–12):

The Key School (Annapolis, MD)

- Head of School: Marcella Yedid
- AP Teacher: Babette Leshinsky
- Teachers of Foundation Courses: Eileen Cimbolir, Catherine Fasbender, Lucia Vong, Marina Becker

Medium-size school (300–799 students in grades 10–12):
San Francisco University High School (San Francisco, CA)

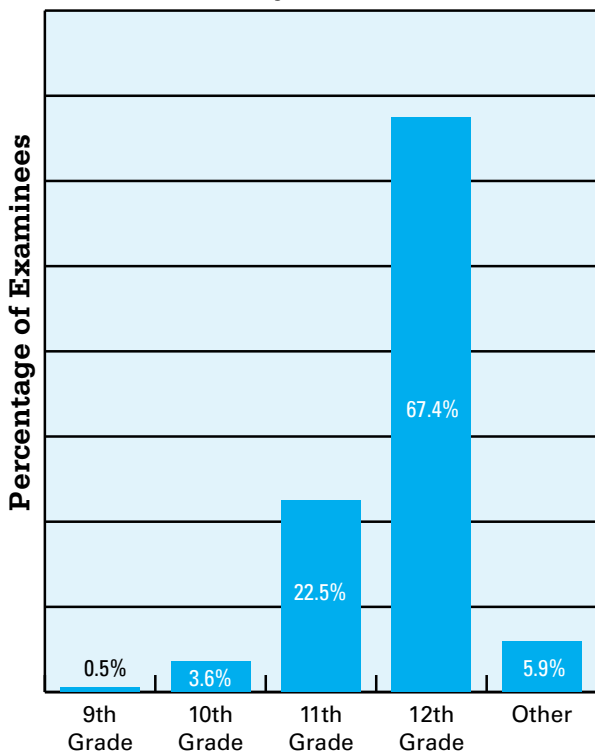
- Head of School: Michael Diamonti
- AP Teacher: Pierre Larzul

Large-size school (800+ students in grades 10–12):

Mission San Jose High School (Fremont, CA)

- Head of School: Stuart Kew
- AP Teacher: Valerie Hodin
- Teacher of Foundation Courses: Pauline Townsend

**AP French Literature
Examinees by Grade Level, 2006**

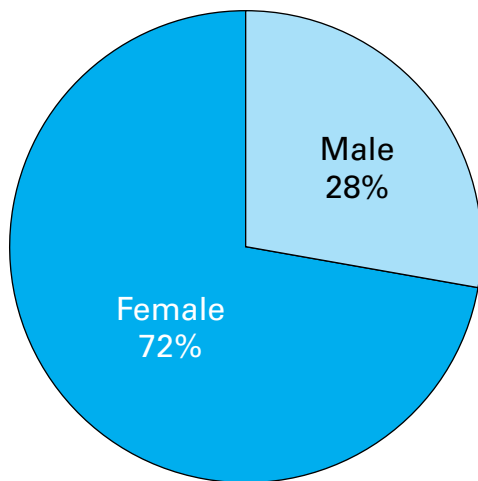


AP Grade Distribution, 2006

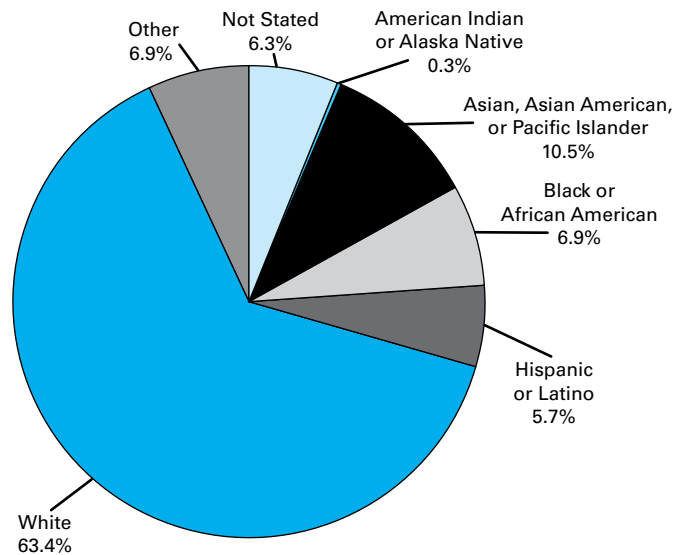
Exam Grade	Number of Examinees	%
Score of 5	327	16.3%
Score of 4	436	21.7%
Score of 3	536	26.7%
Score of 2	316	15.7%
Score of 1	394	19.6%
	2,009	100.0%

Number of Schools Offering This Course: 478

**AP French Literature
Examinees by Gender, 2006**



**AP French Literature
Examinees by Race and Ethnicity, 2006**



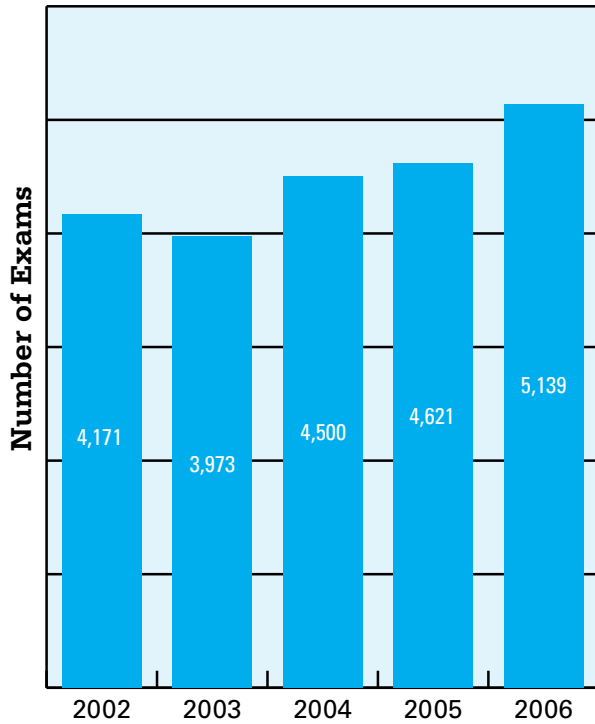
Feedback for Educators

The following observations on student learning in this AP course are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

- Ensure that all texts have been studied in full.
- Illustrate the difference between assertion and analysis/explanation/demonstration.
- Train students on the effective use of literary and analytical terms.
- Help students craft a cohesive essay and choose pertinent supporting examples. Students should avoid rehashing the question itself.
- Students must avoid vagueness by learning to express cause and effect that will bring out the meaning of their observations.
- Provide ample essay-writing practice, both timed and untimed.
- Use the Internet to study essays of francophone students and their use of terms, expressions, and writing strategies in their literature essays.

AP German Language

**AP German Language
Number of Exams, 2002–2006**



Exemplary AP German Language Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP German Language.

Small-size school (<300 students in grades 10–12):

The German School (Potomac, MD)

- Head of School: Klaus-Dieter Bloch
- AP Teachers: Mona Eikel-Pohen, Marita Heep, Barbara Baeuerle

Medium-size school (300–799 students in grades 10–12):

Norfolk Academy (Norfolk, VA)

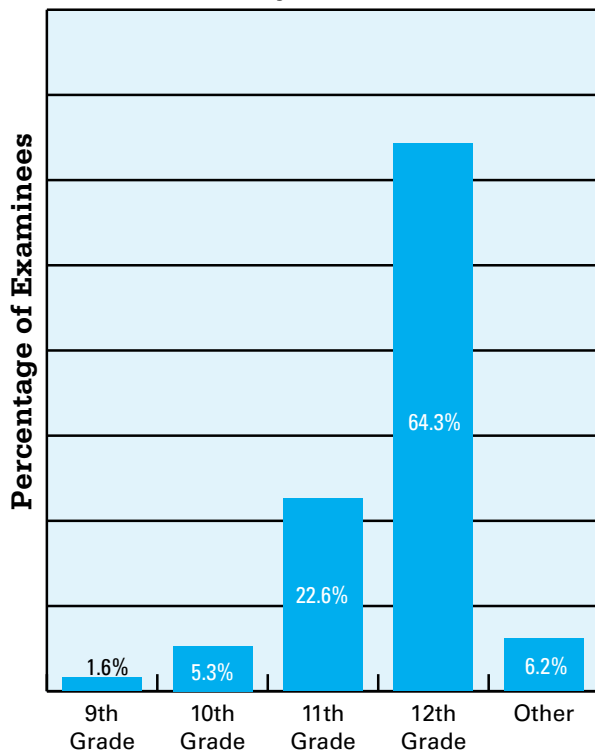
- Head of School: Dennis G. Manning
- AP Teacher: Katherine Holmes
- Teacher of Foundation Courses: Christopher Nelson

Large-size school (800+ students in grades 10–12):

Adams High School (Rochester, MI)

- Head of School: Deborah Price
- AP Teacher: Janice Barner

**AP German Language
Examinees by Grade Level, 2006**



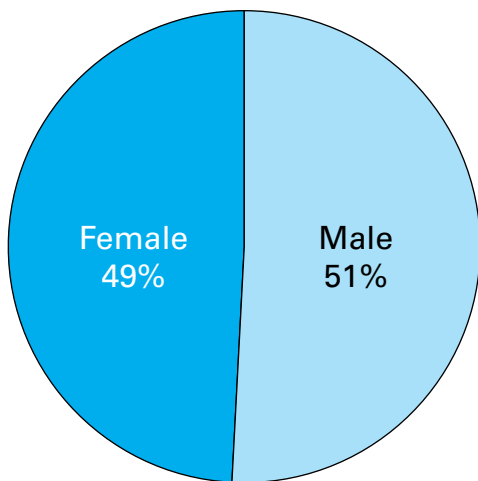
AP Grade Distribution, 2006

Exam Grade		Number of Examinees	%
Standard Group*	Score of 5	281	8.6%
	Score of 4	658	20.2%
	Score of 3	954	29.4%
	Score of 2	793	24.4%
	Score of 1	564	17.4%
		3,250	100.0%
Exam Grade		Number of Examinees	%
Total Group	Score of 5	1,282	24.9%
	Score of 4	1,023	19.9%
	Score of 3	1,222	23.8%
	Score of 2	941	18.3%
	Score of 1	671	13.1%
		5,139	100.0%

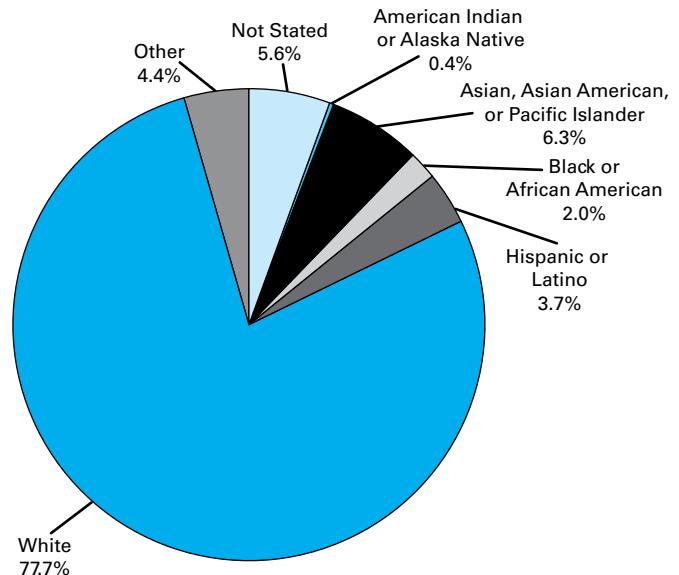
*Standard students generally receive most of their foreign language training in U.S. schools. They did not indicate on their answer sheet that they regularly speak or hear the foreign language of the examination, or that they have lived for one month or more in a country where the language is spoken.

Number of Schools Offering This Course: 1,320

**AP German Language
Examinees by Gender, 2006**



**AP German Language
Examinees by Race and Ethnicity, 2006**



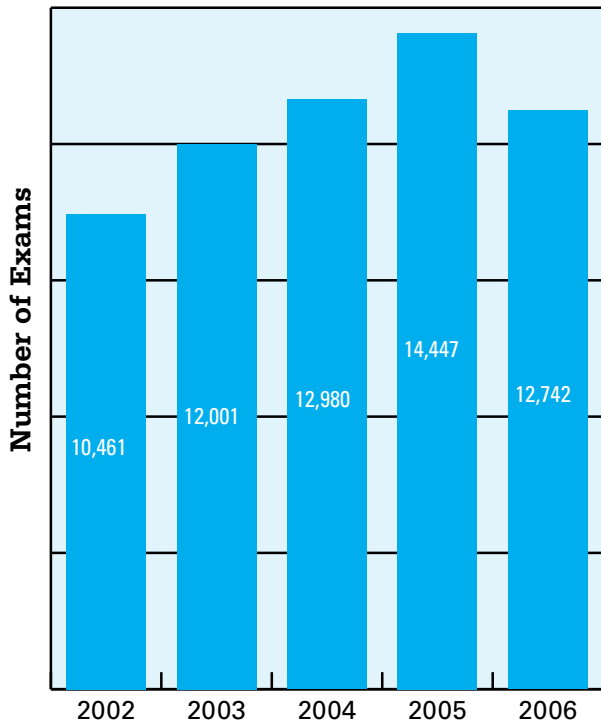
Feedback for Educators

The following observations on student learning in this AP course are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

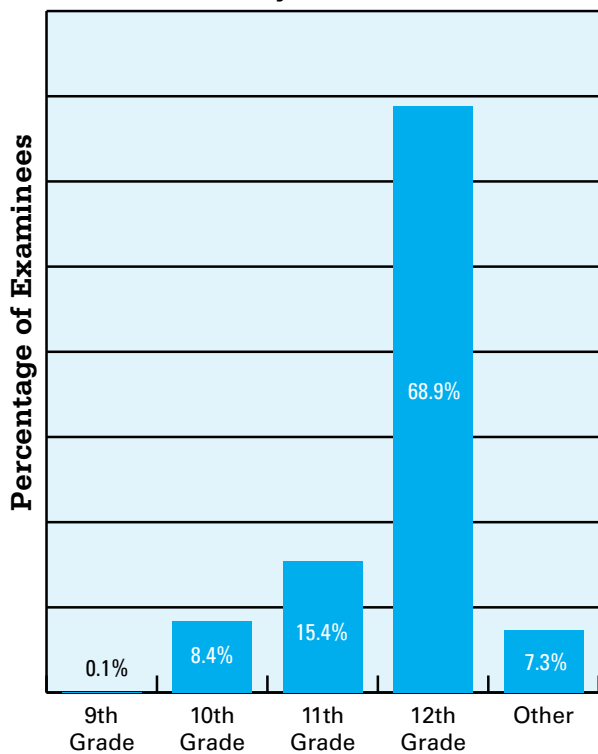
- For the fill-in section, rather than devise cloze passages that focus on particular points of grammar and vocabulary, teachers should select a text and simply remove every eighth or ninth word, regardless of its form. Have students fill in the missing words.
- The most productive classroom strategy in preparation for the composition is to conduct frequent, timed, in-class writing sessions, evaluated according to the AP Reading standards. Especially good practice is derived from prompts that ask for arguments and counterarguments as well as those that require a coherent narrative.
- Teachers can expect the highest performance from their students on the speaking section of the exam if they have helped them to achieve mechanical mastery of the actual equipment that will be used during the exam.
- Frequency of speaking practice and familiarity with the scoring guidelines is very beneficial. Additionally, teachers are advised to give specific attention to lexical items and grammatical markers that lend cohesion to narratives.

AP Government and Politics: Comparative

**AP Government and Politics: Comparative
Number of Exams, 2002–2006**



**AP Government and Politics: Comparative
Examinees by Grade Level, 2006**



Exemplary AP Government and Politics: Comparative Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Government and Politics: Comparative.

Small-size school (<300 students in grades 10–12):
Saint Anselm’s Abbey School (Washington, DC)

- Head of School: Fr. Peter Weigand, O.S.B.
- AP Teacher: Fr. Michael Hall, O.S.B.
- Teachers of Foundation Courses: Patrick Parsons, Henry Achilles, Patrick Granfield

Medium-size school (300–799 students in grades 10–12):
Maggie L. Walker Governor’s School for Government and International Studies (Richmond, VA)

- Head of School: N. Douglas Hunt
- AP Teachers: Matt McGuire, Mary Jane McKay, Les Schreiber
- Teachers of Foundation Courses: Dan Brown, Sarah Dwelle, Brenda Ericson, Tinsley Pollard, Phil Sorrentino, Michael White, John Wilkes

Large-size school (800+ students in grades 10–12):
Saint Ignatius College Prep (Chicago, IL)

- Heads of School: Rev. Brian G. Paulson, S.J.; Catherine A. Karl
- AP Teachers: Diane Haleas Hines, Brian Hardy
- Teachers of Foundation Courses: Diane Haleas Hines, Martin Kelly, Brendan Malone, Gregory Off, Kevin Rigney, Terrence Tyrrell, Sr. Therese DeCanio, O.P., Jean Erickson, Richard Kehoe, Rose Mary Sullivan, Brian Hardy, James Owen, Patricia Messbarger, Rychelle (Kitty) Hooper, Donald Hoffman, James Hasten, James Connelly, Anthony Evensen, John Chandler

School with the Largest Number of Latino Students Scoring 3+:
Cypress Bay High School (Weston, FL)

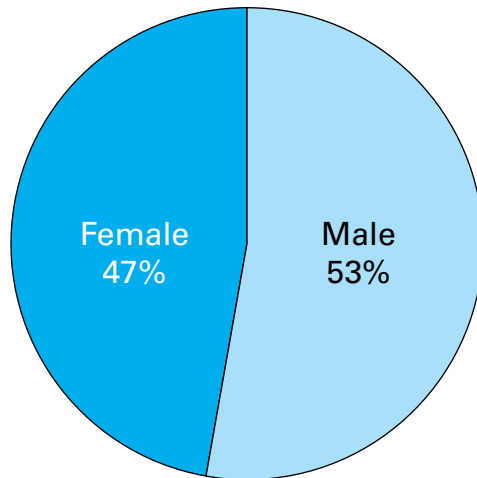
- Head of School: Charles Scott Neely
- AP Teacher: Brian Franklin
- Teachers of Foundation Courses: Eric Adzima, Scott Selvidge, Craig Forgatsch, James Wurster, Anya Pence, Sally Steere

AP Grade Distribution, 2006

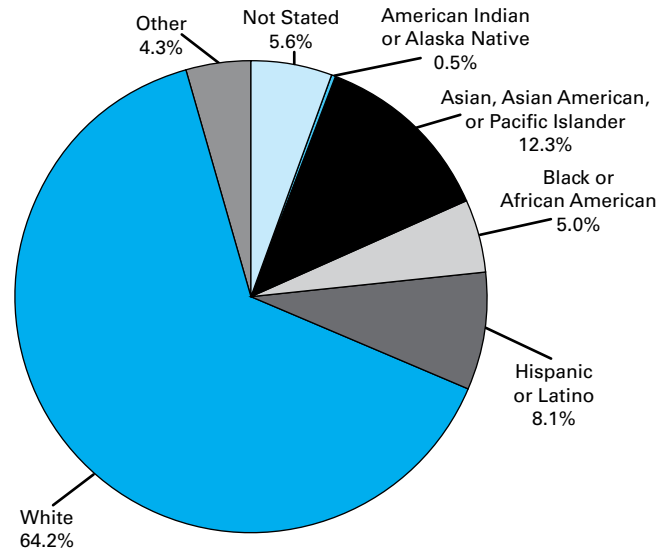
Exam Grade	Number of Examinees	%
Score of 5	1,659	13.0%
Score of 4	2,361	18.5%
Score of 3	2,772	21.8%
Score of 2	3,125	24.5%
Score of 1	2,825	22.2%
	12,742	100.0%

Number of Schools Offering This Course: 1,041

**AP Government and Politics:
Comparative
Examinees by Gender, 2006**



**AP Government and Politics:
Comparative
Examinees by Race and Ethnicity, 2006**



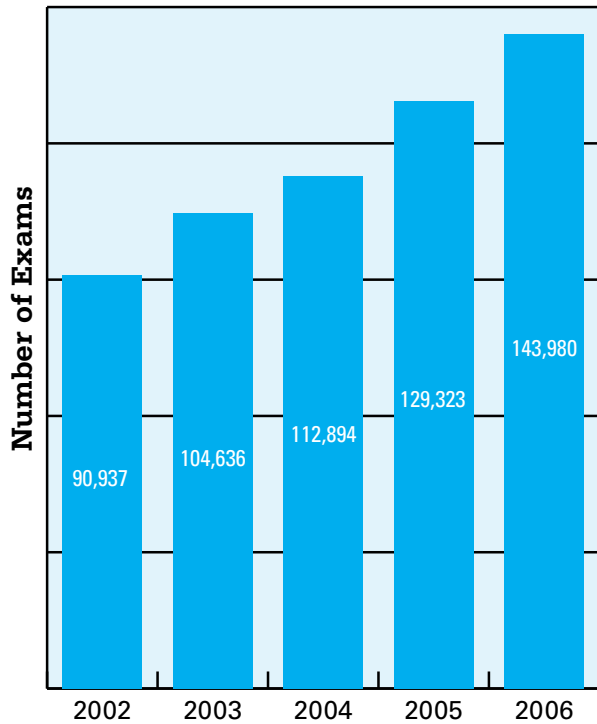
Feedback for Educators

The following observations on student learning in these AP courses are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

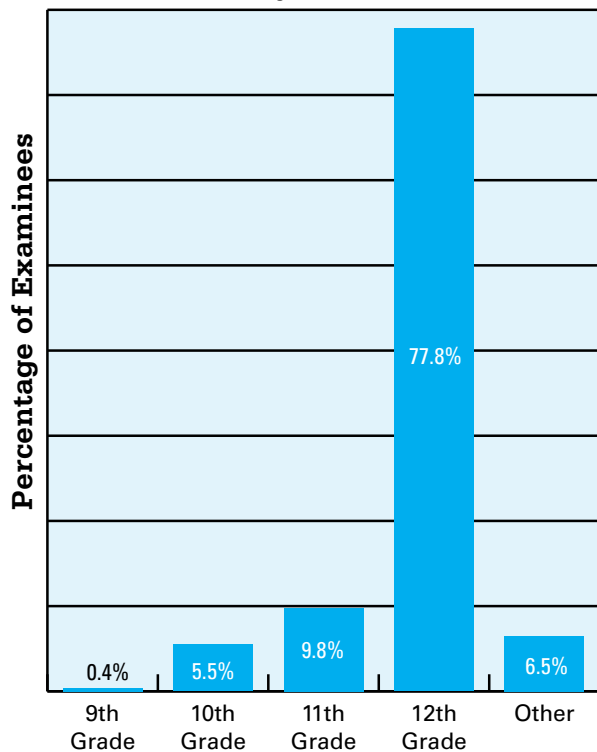
- Teachers should review their syllabi and teaching methods to make sure that students are provided with opportunities to learn important theoretical and methodological concepts in the study of comparative politics and are able to apply them in specific contexts. Using the topics provided in the AP Government and Politics Course Description will help teachers introduce the core concepts that are likely to be assessed.
- Most students could not identify two defining characteristics of a corporatist system. A common error was incorrectly defining corporatist systems as systems of governance in which business interests alone played the dominant role.
- Although students demonstrated extensive knowledge of the Russian government, in general they did not have a fundamental grasp of the essential features of presidential and parliamentary systems. Many students mistook single-member districts and proportional representation as necessary features of a parliamentary system. Another common error was offering the bicameral structure of the Russian legislative assembly as a characteristic feature of Russia's mixed presidential/parliamentary system.
- Teachers should go beyond defining terms like privatization and supranational organizations. Help students to carefully consider the intertwining of economic and political factors, particularly as they are affected by globalization. Use Britain and China as examples of countries that have operated for years within a world divided into nation-states and that have often made economic decisions relatively independently from other nations. A study of the European Union should be an important part of a comparative government course, particularly Britain's relationship to it.
- Likewise, teachers need to ensure that students keep up with the rapidly changing current trends of privatization of industry in China.
- Conceptual analysis is an important higher-level critical-thinking and analytical skill that students should begin to acquire in introductory university-level political science courses. Teachers should stress the application of concepts in their syllabi and in their teaching. Teachers should give some attention to basic concepts in comparative government and have students work to relate and apply those concepts to concrete political structures, political events, and varieties of political contexts.

AP Government and Politics: United States

**AP Government and Politics: United States
Number of Exams, 2002–2006**



**AP Government and Politics: United States
Examinees by Grade Level, 2006**



Exemplary AP Government and Politics: United States Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Government and Politics: United States.

Small-size school (<300 students in grades 10–12):

Gaston Day School (Gastonia, NC)

- Head of School: Richard R. Rankin
- AP Teacher: Timothy L. Tinnesz

Medium-size school (300–799 students in grades 10–12):

Maggie L. Walker Governor’s School for Government and International Studies (Richmond, VA)

- Head of School: N. Douglas Hunt
- AP Teachers: Matt McGuire, Mary Jane McKay, Les Schreiber
- Teachers of Foundation Courses: Dan Brown, Sarah Dwelle, Brenda Ericson, Tinsley Pollard, Phil Sorrentino, Michael White, John Wilkes

Large-size school (800+ students in grades 10–12):

Thomas Jefferson High School for Science and Technology (Alexandria, VA)

- Head of School: Evan Glazer, Ph.D.
- AP Teachers: Donald Majeske, Dale Kummer, Woody Torrence, David Zack, Jay Lamb, Melissa Schoeplein
- Teachers of Foundation Courses: David Korbin, Jan Vallone, Larry Helm, Jennifer Bain, John Struck

School with the Largest Number of Latino Students Scoring 3+:
Christopher Columbus High School (Miami, FL)

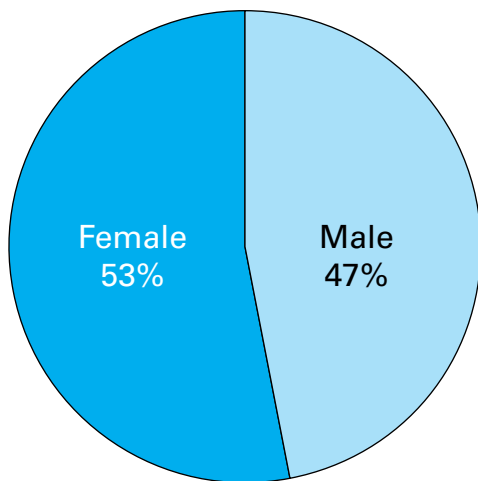
- Head of School: Brother Patrick McNamara
- AP Teacher: Mary T. McCullagh
- Teacher of Foundation Courses: John P. Cunningham

AP Grade Distribution, 2006

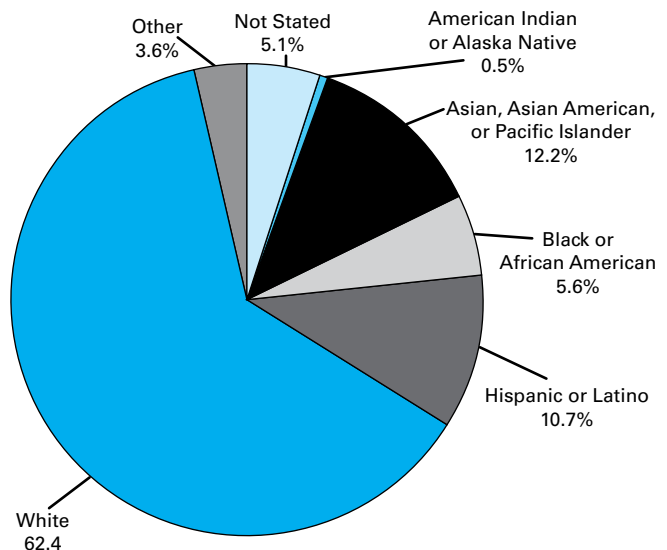
Exam Grade	Number of Examinees	%
Score of 5	11,561	8.0%
Score of 4	25,415	17.7%
Score of 3	41,982	29.2%
Score of 2	44,096	30.6%
Score of 1	20,926	14.5%
	143,980	100.0%

Number of Schools Offering This Course: 5,982

**AP Government and Politics:
United States
Examinees by Gender, 2006**



**AP Government and Politics:
United States
Examinees by Race and Ethnicity, 2006**



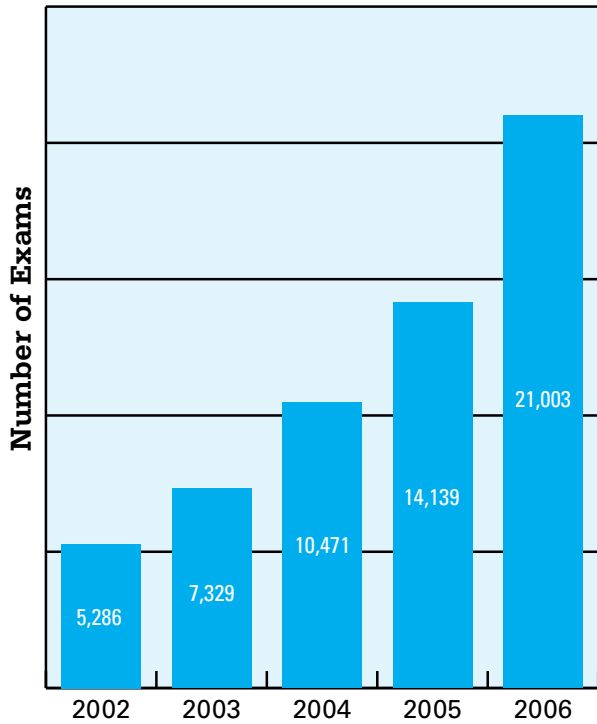
Feedback for Educators

The following observations on student learning in these AP courses are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

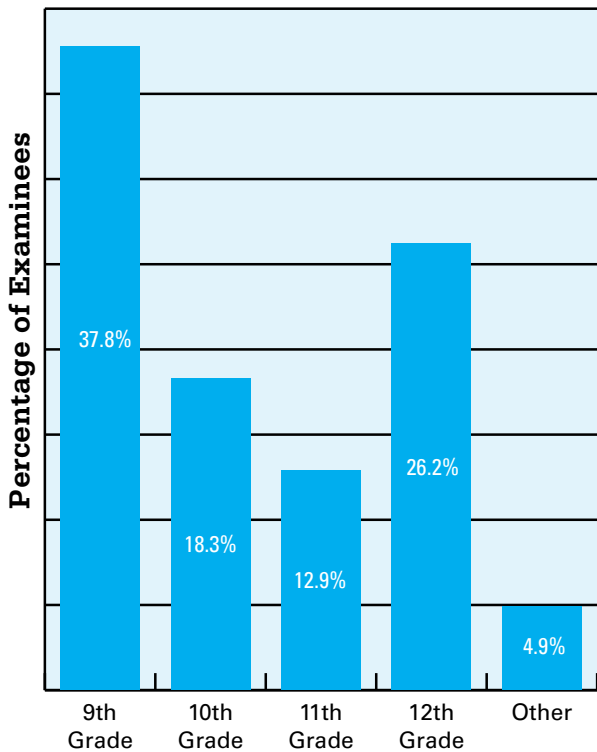
- Teachers should instruct their students to be sure to respond to the specific questions that are asked. For example, when asked to identify the fundamental goal of political parties and interest groups, students should refrain from listing multiple goals, which implies that they are unsure of the fundamental goal.
- Teachers should continue to stress the importance of assimilating and being able to apply critical social science concepts like "demographic trends." Another way that teachers can help students improve their performance is by encouraging precision in the definition of key terms and concepts.
- Being able to connect and relate information and knowledge about discrete subjects is a central analytical and critical thinking skill for students of government and politics. Teachers should make learning such linkages integral to their lectures and course assignments. They should also convey to students the importance of integrating their knowledge of different relevant topics in United States government and politics when responding to free-response questions.
- A common error was students' inability to provide a rationale or justification for bicameralism other than the Connecticut Compromise. Many were unable to identify more than one specific and unique power for each of the chambers. Another weakness in the responses was the tendency for students to discuss general congressional powers rather than specific powers connected to a particular chamber. Quite a few students had difficulty explaining why the powers they identified were expressly given to the House or the Senate.
- The theoretical bases of political institutions are a significant aspect of United States government and politics. Teachers should address this topic when covering the United States Constitution and revisit the theoretical foundations of political institutions when each specific institution is covered in class.

AP Human Geography

**AP Human Geography
Number of Exams, 2002–2006**



**AP Human Geography
Examinees by Grade Level, 2006**



Exemplary AP Human Geography Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Human Geography.

Small-size school (<300 students in grades 10–12):
School for the Talented and Gifted Magnet High School (Dallas, TX)

- Head of School: F. Michael Satarino
- AP Teacher: Richard A. Giddens

Medium-size school (300–799 students in grades 10–12):
Pine Crest School (Ft. Lauderdale, FL)

- Head of School: Dr. Lourdes M. Cowgill
- AP Teacher: Dan Snyder
- Teacher of Foundation Courses: Nancy Sollitto

Large-size school (800+ students in grades 10–12):
Walnut Hills High School (Cincinnati, OH)

- Head of School: Marvin D. Koenig
- AP Teacher: Justin Demoss

School with the Largest Number of Latino Students Scoring 3+:
Miami Killian Senior High School (Miami, FL)

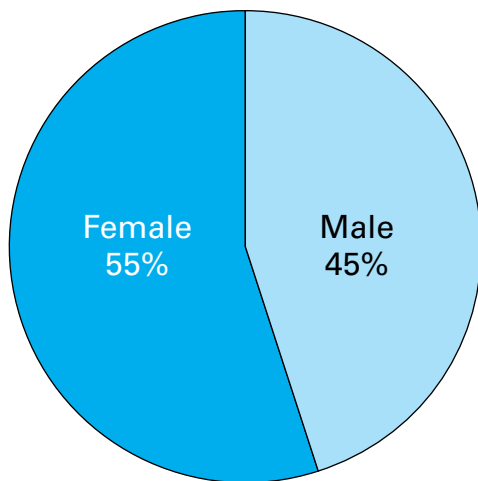
- Head of School: Ricardo Rodriguez
- AP Teacher: Scott Bruce

AP Grade Distribution, 2006

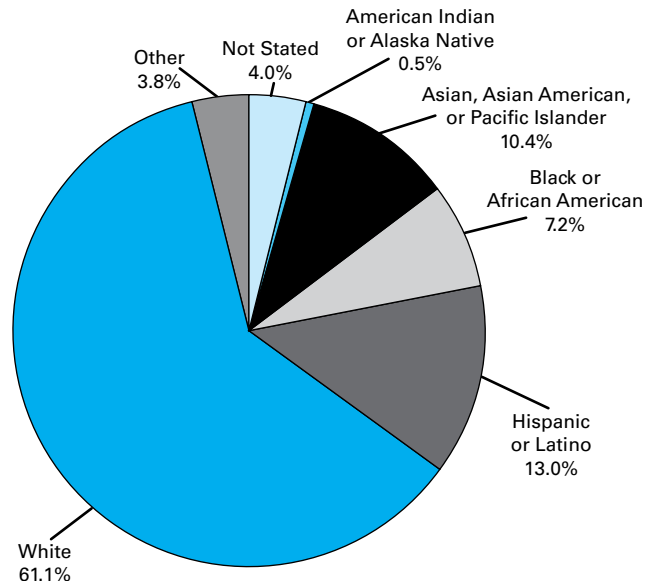
Exam Grade	Number of Examinees	%
Score of 5	3,550	16.9%
Score of 4	4,132	19.7%
Score of 3	4,579	21.8%
Score of 2	3,362	16.0%
Score of 1	5,380	25.6%
	21,003	100.0%

Number of Schools Offering This Course: 890

**AP Human Geography
Examinees by Gender, 2006**



**AP Human Geography
Examinees by Race and Ethnicity, 2006**



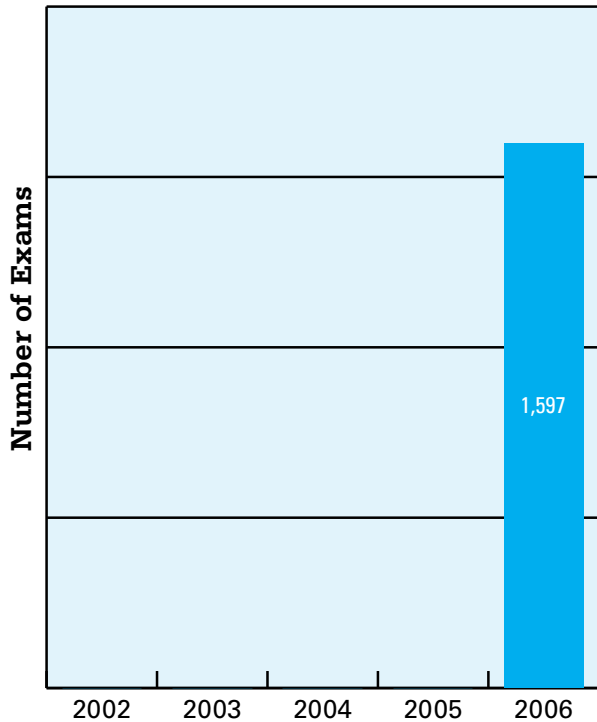
Feedback for Educators

The following observations on student learning in these AP courses are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

- Focus on the AP Human Geography Course Description, and consult a wide variety of related materials when preparing for class to ensure comprehensive coverage. Integrate current events into course material and class discussions of geographic concepts.
- Although AP Human Geography is not a map-reading or world geography course, students need to have a basic level of geographic literacy.
- Stress interconnections across different sections of the topic outline. Encourage students to integrate concepts from different areas of the course.
- Teach students to become familiar with applying concepts and with analyzing spatial processes and linkages across multiple geographic contexts and on a variety of scales.
- Ensure that students are familiar with relevant vocabulary. Encourage them to define terms in their own words to help them understand key geographic concepts and to apply these concepts to a variety of real-world contexts.
- Teach students to be explicit and precise in their responses to exam questions, and to not restate the question or write introductions and conclusions.
- Encourage students to take five minutes per question to carefully read the question, taking the time to interpret correctly any stimulus material, and to outline their responses in a manner consistent with the structure of the question. Make sure students understand what is expected when words like *explain*, *define*, *identify*, and *discuss* are used in a question.

AP Italian Language and Culture

**AP Italian Language and Culture
Number of Exams, 2006**



Exemplary AP Italian Language and Culture Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Italian Language and Culture.

Small-size school (<300 students in grades 10–12):
Villa Walsh Academy (Morristown, NJ)

- Head of School: Sr. Patricia Pompa, M.P.F.
- AP Teacher: Lina Maraschi

Medium-size school (300–799 students in grades 10–12):
Somers High School (Lincolndale, NY)

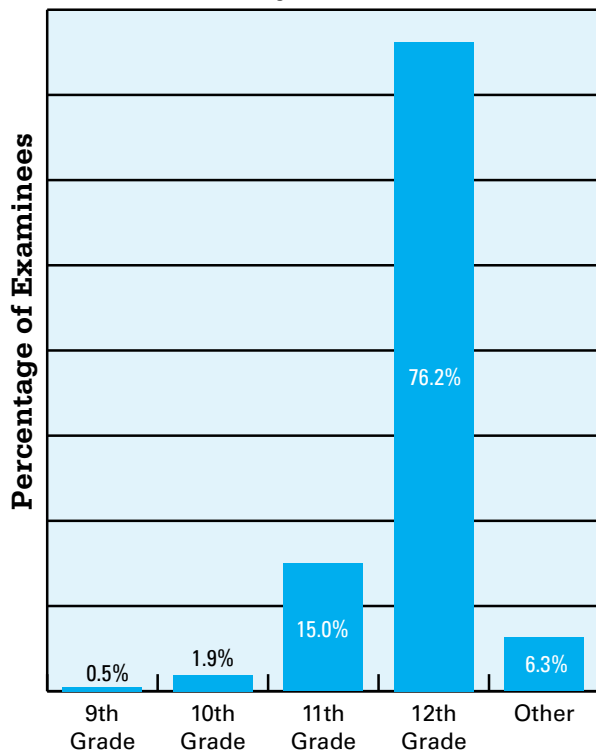
- Head of School: Irene A. Perrella
- AP Teacher: Luisella Mazzoni

Large-size school (800+ students in grades 10–12):
Boston Latin School (Boston, MA)

- Head of School: Cornelia A. Kelley
- AP Teacher: Silvana DiCenso Myette

2006 was the inaugural year of AP Italian

**AP Italian Language and Culture
Examinees by Grade Level, 2006**



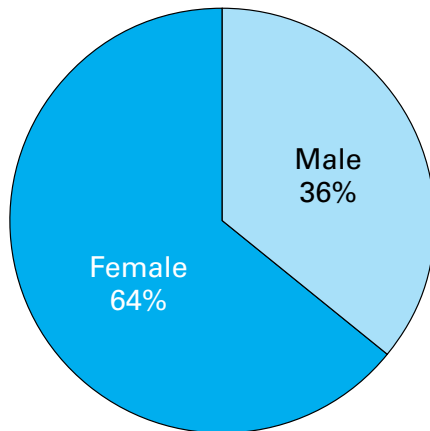
AP Grade Distribution, 2006

	Exam Grade	Number of Examinees	%
Standard Group*	Score of 5	71	7.1%
	Score of 4	112	11.2%
	Score of 3	225	22.5%
	Score of 2	243	24.3%
	Score of 1	351	35.0%
		1,002	100.0%
Total Group	Score of 5	263	16.5%
	Score of 4	212	13.3%
	Score of 3	350	21.9%
	Score of 2	331	20.7%
	Score of 1	441	27.6%
		1,597	100.0%

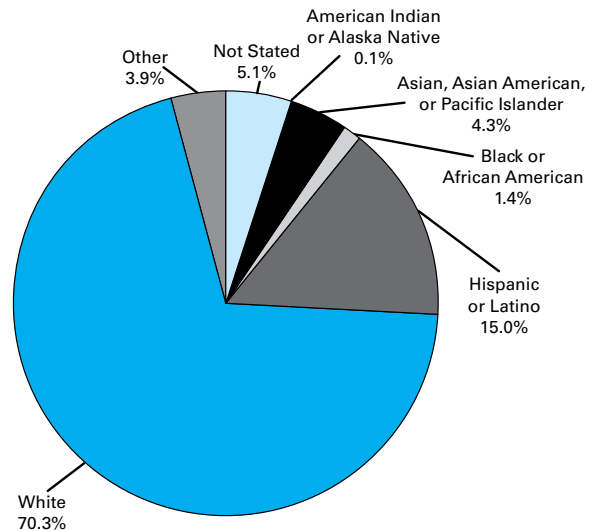
*Standard students generally receive most of their foreign language training in U.S. schools. They did not indicate on their answer sheet that they regularly speak or hear the foreign language of the examination, or that they have lived for one month or more in a country where the language is spoken.

Number of Schools Offering This Course: 311

**AP Italian Language and Culture
Examinees by Gender, 2006**



**AP Italian Language and Culture
Examinees by Race and Ethnicity, 2006**

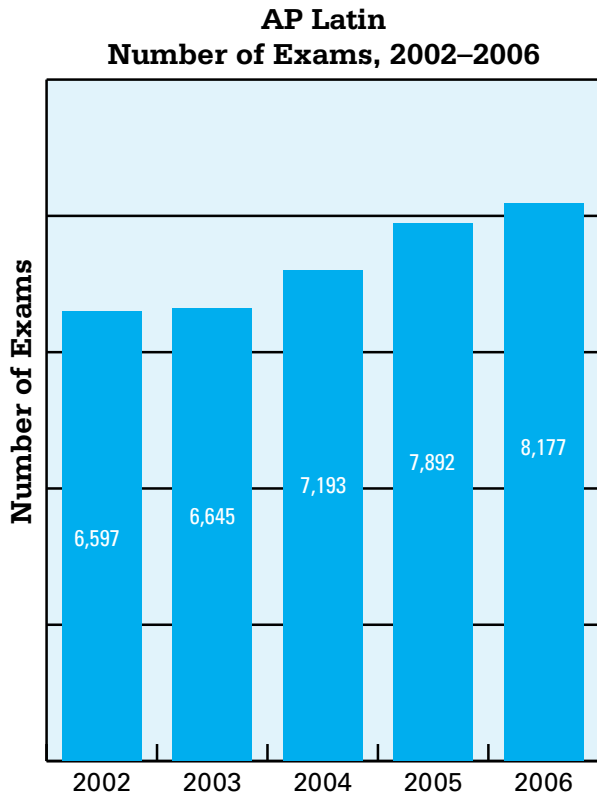


Feedback for Educators

The following observations on student learning in these AP courses are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

- Students need periodic in-class practice in writing a composition that reflects the actual exam conditions (30 minutes, on a specific topic, following AP Exam instructions). They also need to develop a sense of how much time it will take to write a 150-word composition.
- It is important to remind students that the culture composition will be scored twice—once for content and a second time for language—by two different Readers.
- It is important to familiarize students with the scoring guidelines (available on AP Central) so that they know how their responses will be evaluated; it would be useful to post the guidelines prominently in the classroom so that students may consult them.
- Students should develop the habit of giving their compositions a final proofreading for common errors in subject-verb agreement, noun-adjective agreement, use of the subjunctive, placement of accents, spelling, use of transitional elements, appropriate use of paragraphs, and so forth, as well as to ensure that the composition has stayed on topic.
- Students should learn to cite cultural references in their practice compositions on cultural subjects. This would include film, literary sources, newspapers, and the like. Being able to do this presupposes that they spend time—likely both in and out of class—identifying, discussing, and interpreting what the information in such cultural products implicitly and explicitly reveals about the culture of Italy.
- In the picture sequence, students tend to describe the pictures instead of narrating a story with a beginning, middle, and end. Before beginning to speak, each student has two minutes to make notes and prepare the narration. This is a very important preparatory step for providing a complete oral narrative, and it should be incorporated in all practice sessions.
- Students need to hear a wide variety of male and female voices to be prepared for the conversation part of the exam. Appropriate clips from various media (film, songs, opera, television, radio) would be useful in and out of the classroom. Such materials may be located on the Internet, at movie rental stores, on television, or at public or university libraries.

AP Latin¹²



Exemplary AP Latin Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Latin.

Small-size school (<300 students in grades 10–12):

Broadwater Academy (Exmore, VA)

- Head of School: Kendell S. Berry
- AP Teacher: Lorri W. Freitas

Medium-size school (300–799 students in grades 10–12):

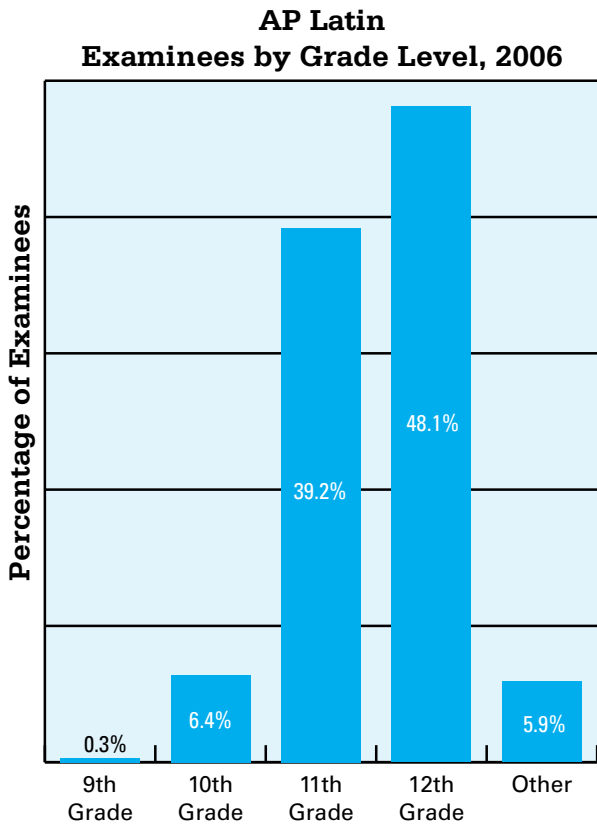
Trinity School (New York, NY)

- Head of School: Henry C. Moses
- AP Teachers: Ginna Closs, Donald Connor, Kaori Miller, Douglas Tobin
- Teachers of Foundation Courses: Kate Mulvihill, Jarred Williams

Large-size school (800+ students in grades 10–12):

Jesuit High School (New Orleans, LA)

- Head of School: Michael A. Giambelluca
- AP Teachers: Christian Higgins, Showalter Knight
- Teachers of Foundation Courses: Clayton Acy, Mitch Chapoton

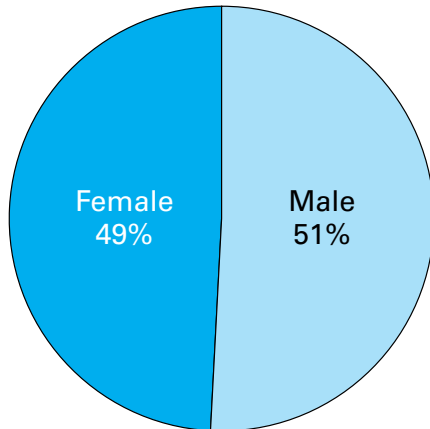


AP Grade Distribution, 2006

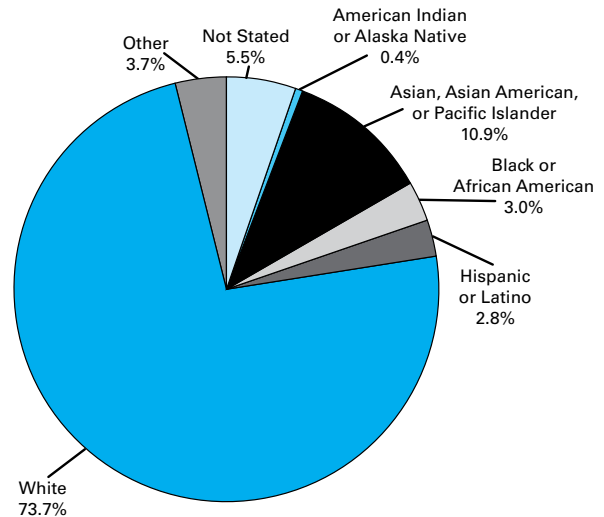
Exam Grade	Number of Examinees	%
Score of 5	1,607	19.7%
Score of 4	1,508	18.4%
Score of 3	2,139	26.2%
Score of 2	1,273	15.6%
Score of 1	1,650	20.2%
	8,177	100.0%

Number of Schools Offering This Course: 1,153

**AP Latin
Examinees by Gender, 2006**



**AP Latin
Examinees by Race and Ethnicity, 2006**



Feedback for Educators

The following observations on student learning in these AP courses are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

Vergil:

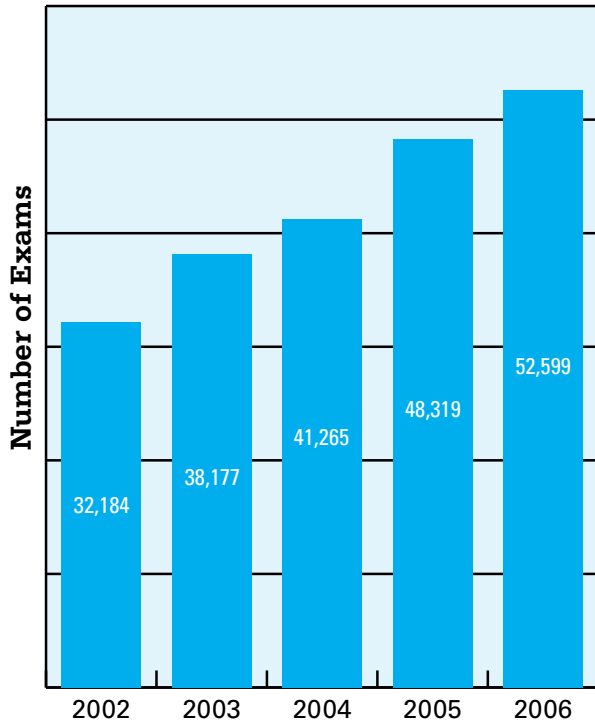
- Emphasize to students that, when translating literally, they should be precise in noun and adjective agreement, verb tenses, and rendering participle phrases.
- Provide students with opportunities to divide reading passages into translation segments and score their own translations using AP scoring guidelines.
- Encourage students to read Latin in "sense units" rather than translating word by word.
- Help students develop strategies for recognizing two-part questions.
- Review in context grammatical features such as subjunctive, vocative, and interrogative adjectives, and stress their significance.
- Teach students to use poetic devices as support for understanding textual content.

Latin Literature:

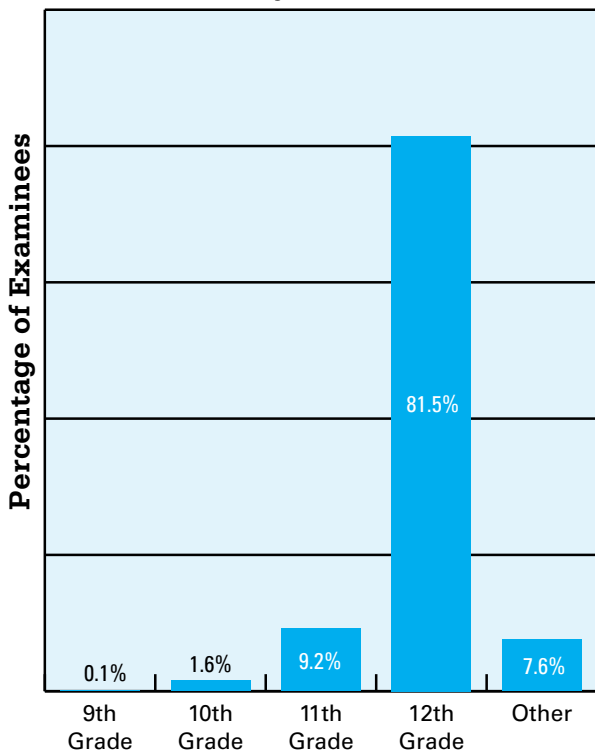
- Emphasize recognition and translation of subjunctives in context.
- Teach students to attend to conjunctions, with respect to both meaning and to what they connect.
- Spend time reviewing biographical information about figures who appear in the poetry.
- Provide many opportunities for students to conduct poetic analyses, particularly with practice essays.
- Provide frequent opportunities for students to practice analyzing and translating long clauses.
- Provide frequent opportunities for students to practice parsing and translating complex sentences.
- Teachers of Cicero should emphasize the rhetorical/literary devices found in prose, just as they do for those devices found in poetry.
- Emphasize vocabulary instruction in order to improve students' abilities to recognize key words.
- Carefully explain all semantic connections in sentences.

AP Macroeconomics

**AP Macroeconomics
Number of Exams, 2002–2006**



**AP Macroeconomics
Examinees by Grade Level, 2006**



Exemplary AP Macroeconomics Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Macroeconomics.

Small-size school (<300 students in grades 10–12):
School for the Talented and Gifted Magnet High School (Dallas, TX)

- Head of School: F. Michael Satarino

Medium-size school (300–799 students in grades 10–12):
Rye High School (Rye, NY)

- Head of School: Jim Rooney
- AP Teacher: James E. Baker

Large-size school (800+ students in grades 10–12):
Plainview-Old Bethpage John F. Kennedy High School (Plainview, NY)

- Head of School: James Murray
- AP Teacher: Jane Behrens

School with the Largest Number of African American Students Scoring 3+: Walnut Hills High School (Cincinnati, OH)

- Head of School: Marvin D. Koenig
- AP Teacher: Jim Martin

School with the Largest Number of Latino Students Scoring 3+:
Cypress Bay High School (Weston, FL)

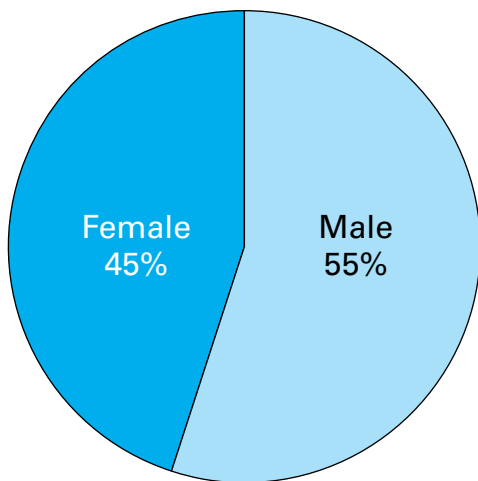
- Head of School: Charles Scott Neely

AP Grade Distribution, 2006

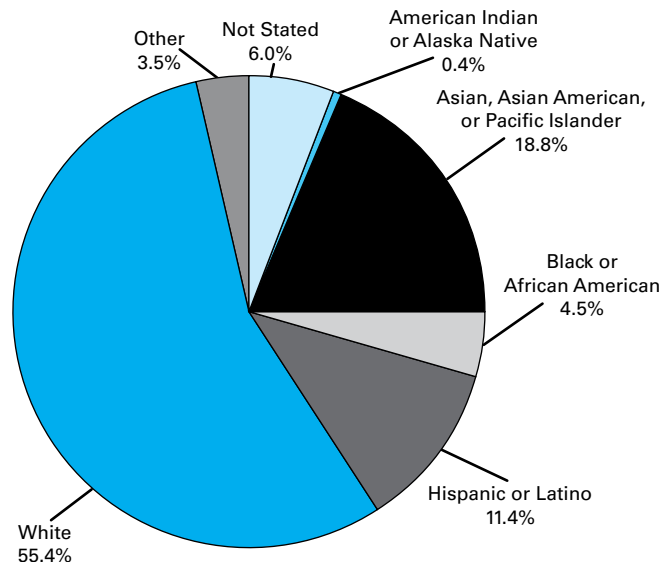
Exam Grade	Number of Examinees	%
Score of 5	6,662	12.7%
Score of 4	12,333	23.4%
Score of 3	9,173	17.4%
Score of 2	11,063	21.0%
Score of 1	13,368	25.4%
	52,599	100.0%

Number of Schools Offering This Course: 2,622

**AP Macroeconomics
Examinees by Gender, 2006**



**AP Macroeconomics
Examinees by Race and Ethnicity, 2006**

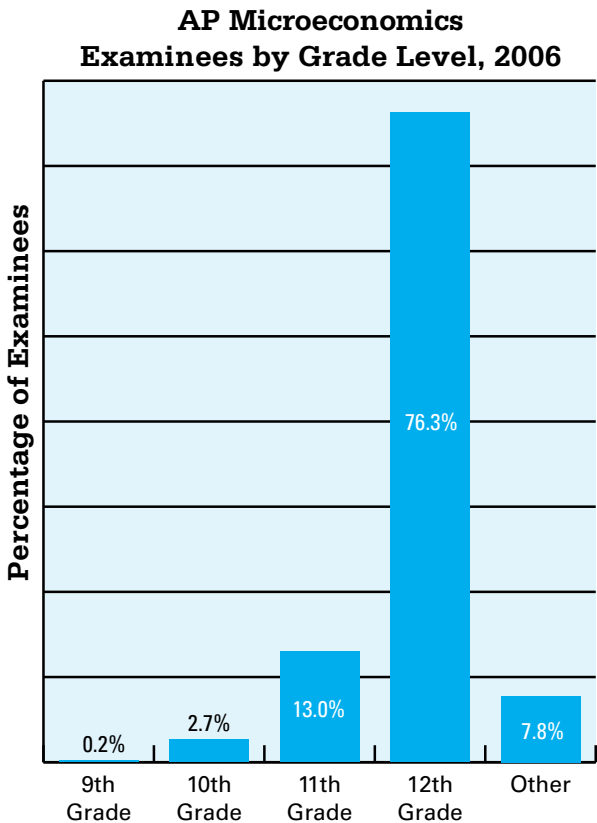
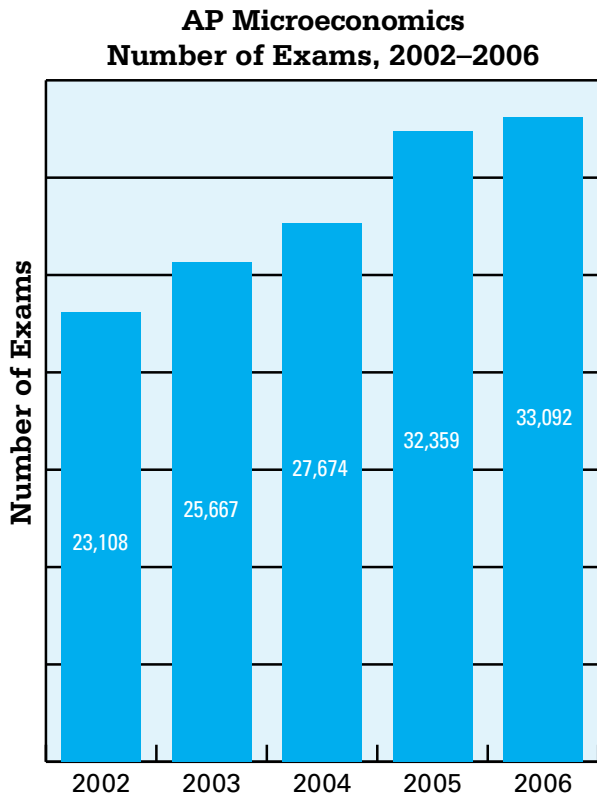


Feedback for Educators

The following observations on student learning in these AP courses are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

- It is essential to emphasize a proper foreign exchange diagram, with the variables being measured on the vertical and horizontal axes, as well as the supply and demand functions. Because the equilibrium value of foreign exchange can be shown as equilibrium between dollar supply and demand, or equilibrium between foreign currency supply and demand, it is useful to develop both frameworks. Equally important is the effect of changes in macro variables like interest rates, output, and income levels on the supply of and/or demand for dollars (and foreign currencies).
- It is important to establish that the money supply/ money demand framework is the easiest way to explain the equilibrium nominal interest rate and that the loanable funds framework is the easiest way to explain the equilibrium real interest rate.
- Students must be familiar with both frameworks. It must also be established that the expected rate of inflation is the link between the nominal interest rate and the real interest rate.
- Some students were unable to draw a properly labeled graph of the long-run Phillips curve and interpret how a change in the natural rate of unemployment affects the long-run Phillips curve. In addition, students had trouble with the concept and determinants of the natural rate of unemployment. Students should understand that the long-run Phillips curve is vertical at the natural rate of unemployment, and they should be aware of the factors that determine the natural rate of unemployment.

AP Microeconomics



Exemplary AP Microeconomics Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Microeconomics.

Small-size school (<300 students in grades 10–12):

Landon School (Bethesda, MD)

- Head of School: David M. Armstrong
- AP Teacher: John J. Bellaschi

Medium-size school (300–799 students in grades 10–12):

Hume-Fogg Academic High School (Nashville, TN)

- Head of School: Paul Fleming
- AP Teacher: Martha K. Robinson

Large-size school (800+ students in grades 10–12):

Lowell High School (San Francisco, CA)

- Head of School: Amy Hansen
- AP Teachers: Aster Chin, Kristen Lubenow, James Spellicy, Erin Sylvester

School with the Largest Number of African American Students Scoring 3+:

Walnut Hills High School (Cincinnati, OH)

- Head of School: Marvin O. Koenig

- AP Teacher: Jim Martin

School with the Largest Number of Latino Students Scoring 3+:

Christopher Columbus High School (Miami, FL)

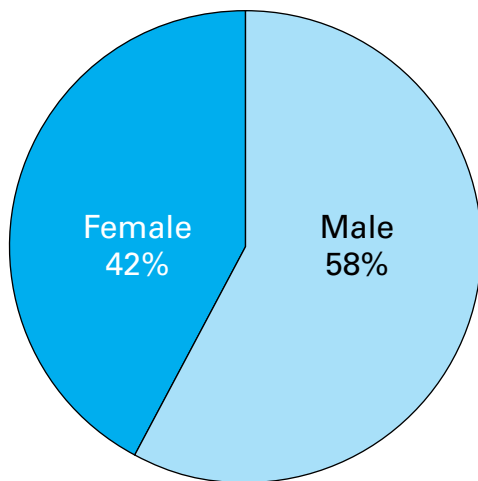
- Head of School: Brother Patrick McNamara
- AP Teacher: Dan Ciocca
- Teachers of Foundation Courses: John Cunningham, Brother Herb Baker, Dr. James Dugard, Mary T. McCullagh

AP Grade Distribution, 2006

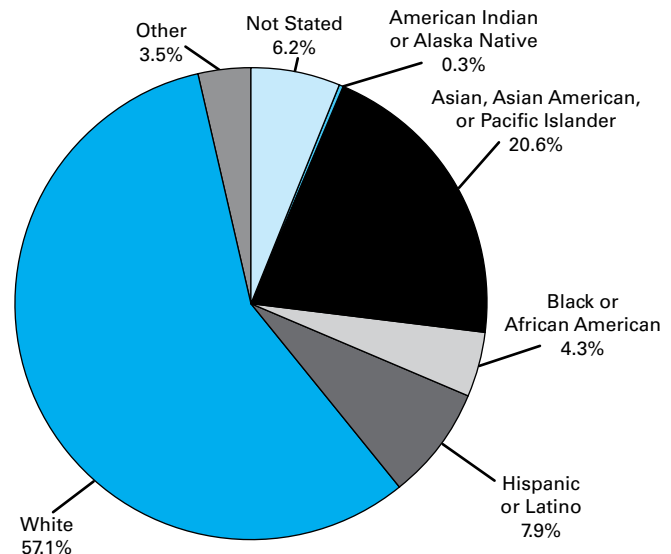
Exam Grade	Number of Examinees	%
Score of 5	5,418	16.4%
Score of 4	9,202	27.8%
Score of 3	6,299	19.0%
Score of 2	5,256	15.9%
Score of 1	6,917	20.9%
	33,092	100.0%

Number of Schools Offering This Course: 2,189

**AP Microeconomics
Examinees by Gender, 2006**



**AP Microeconomics
Examinees by Race and Ethnicity, 2006**



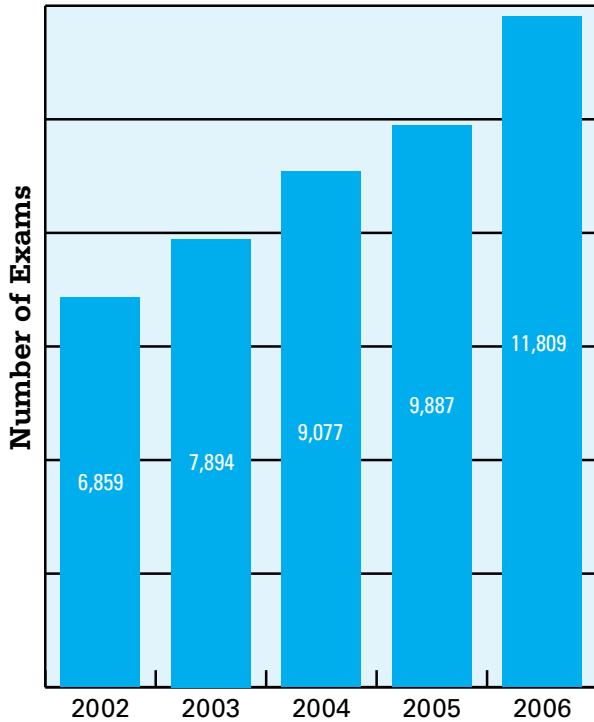
Feedback for Educators

The following observations on student learning in these AP courses are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

- A common student problem was the inability to understand the distinction between accounting and economic profits. Other common errors included the inability to identify the price that maximizes the sum of consumer and producer surplus and to understand allocative efficiency and inefficiency.
- It is important for students to understand that the cost curves used in economic analysis represent all opportunity costs so that any profit identified in the analysis is economic profit, which, because of implicit costs, will mean that economic profits are less than accounting profits. Also important is the understanding that allocative efficiency occurs where, in the absence of externalities, marginal cost equals marginal benefit (demand).
- Students should have a complete understanding of the use of the MC and MR rule in maximizing profit. If $MC = MR$ cannot be achieved, then production should increase as long as $MR > MC$, not that production should occur where MR is closest to MC. Students should also be able to work through the long-run effects of changes in taxes and other costs, as well as changes in demand.
- A common error was students' inability to explain that in an unregulated market, the presence of an external cost means that $MSC > MSB$, which is not socially optimal. Another common error was in understanding how a change in subsidies to farmers will affect the supply of land for residential development. Students must be well versed in the conditions necessary for allocative efficiency (a socially optimal outcome) and understand how an unregulated external cost produces allocative inefficiency. This is best explained using the concepts of marginal benefit (MB), marginal private cost (MPC), and marginal social cost (MSC).

AP Music Theory

**AP Music Theory
Number of Exams, 2002–2006**



Exemplary AP Music Theory Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Music Theory.

Small-size school (<300 students in grades 10–12):
The South Carolina Governor’s School for the Arts and Humanities (Greenville, SC)

- Heads of School: Donald Beckie (President), Sharon Kazee (Dean)
- AP Teachers: Nancy Smith, Ryan Hebert

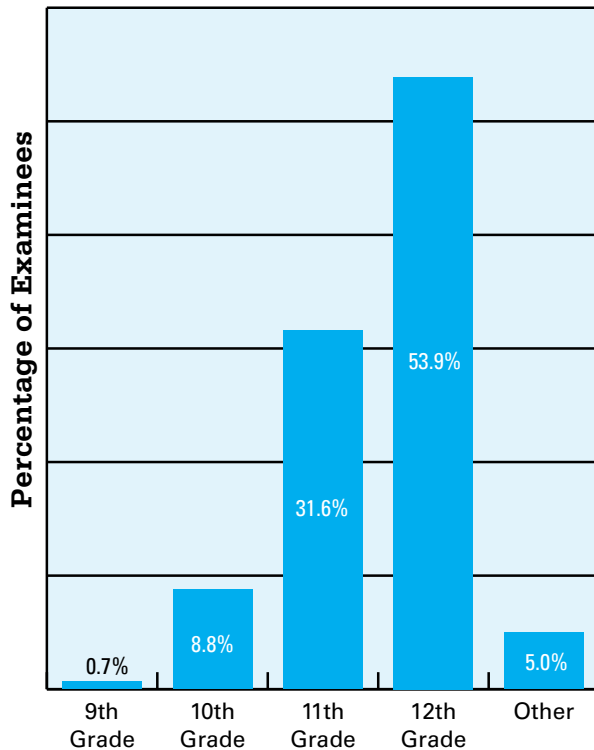
Medium-size school (300–799 students in grades 10–12):
New World School of the Arts (Miami, FL)

- Head of School: Ellery Brown
- AP Teacher: Rodester Brandon

Large-size school (800+ students in grades 10–12):
Phillips Academy (Andover, MA)

- Head of School: Barbara L. Chase
- AP Teacher: Peter Warsaw

**AP Music Theory
Examinees by Grade Level, 2006**

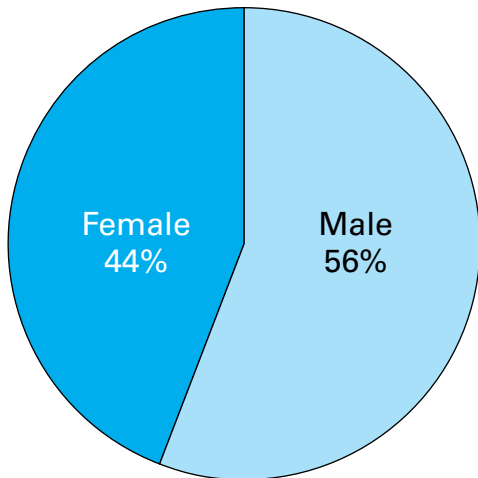


AP Grade Distribution, 2006

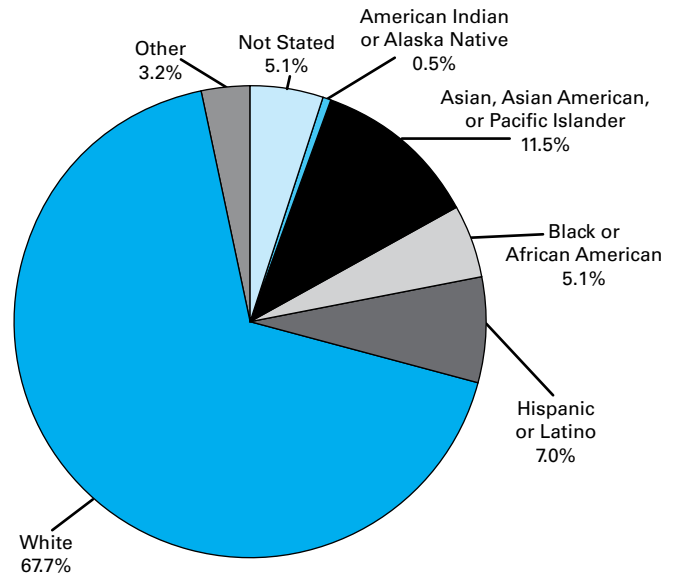
Exam Grade	Number of Examinees	%
Score of 5	2,267	19.2%
Score of 4	2,209	18.7%
Score of 3	3,374	28.6%
Score of 2	2,803	23.7%
Score of 1	1,156	9.8%
	11,809	100.0%

Number of Schools Offering This Course: 2,074

**AP Music Theory
Examinees by Gender, 2006**



**AP Music Theory
Examinees by Race and Ethnicity, 2006**



Feedback for Educators

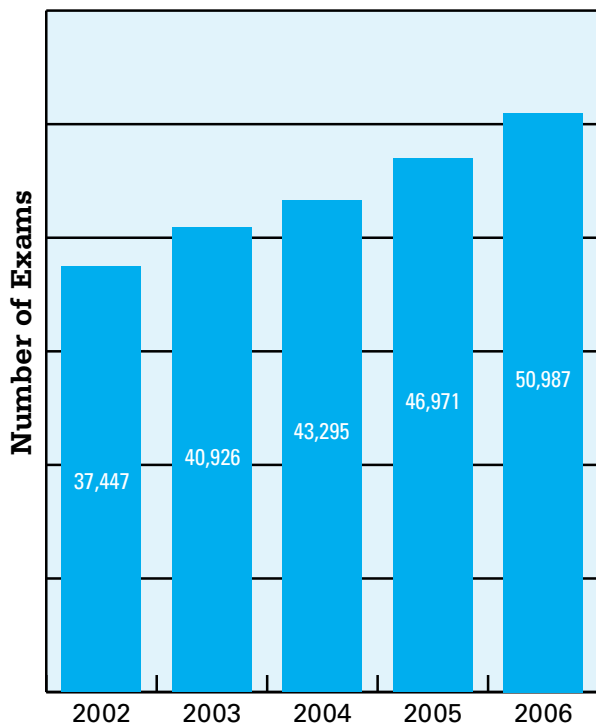
The following observations on student learning in this AP course are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

AP Music Theory Exam Readers encourage teachers to adopt the following approaches:

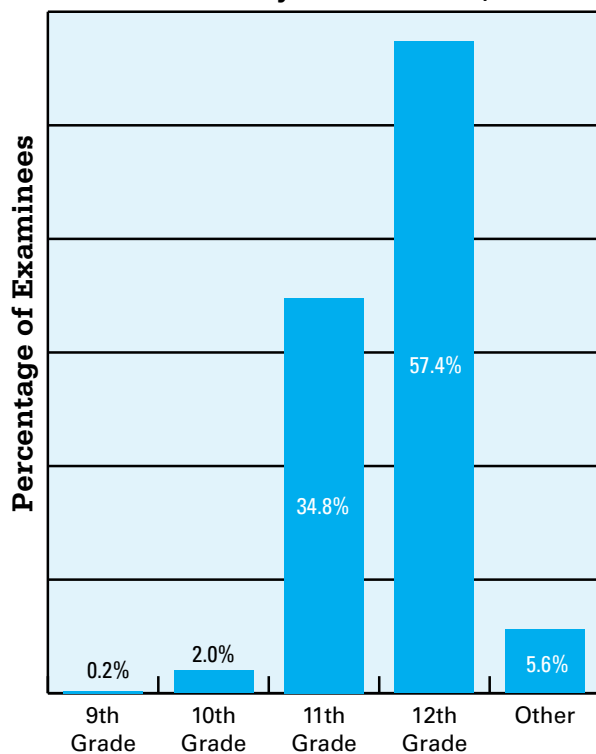
- Integrate minor key examples early in the course, and avoid overemphasis of major mode.
- Emphasize clear, accurate notation (stems, accidentals, ledger lines, dots, etc.).
- Practice rhythmic dictation, and highlight for students the distinctions between simple and compound meters, developing a vocabulary of common patterns in each meter.
- Focus on scale-degree awareness, common pitch and rhythmic chunks, characteristic phrase structures, and expected cadential patterns as strategies for application with a wide range of tonal melodies.
- Teach cadential harmonic chunks.
- Teach students to hear melodies in harmonic context.
- Focus on compound meter and attend particularly to its most characteristic rhythmic motives.
- Provide opportunities for students to practice writing clear notation.
- Remind students that minor is not a viable system without the leading tone.
- Help students learn harmonic syntax.
- Emphasize aural distinction between functionally equivalent chords.
- Cover all secondary dominants, not just V/V.
- Emphasize the roles of sharps and flats.
- Teach students to double the third of the VI chord in the deceptive cadence.
- Teach students to spell chords correctly in the key.
- Teach all aspects of the figured bass notation.
- Compel students to use common tones and to tie them for reinforcement.
- Teach students to connect common tones first, then move by step where possible, and if neither is possible, move by the smallest leaps available.
- Emphasize the linear aspect of part writing in order to avoid unsingable leaps.
- Emphasize that inner parts are actually melodies that need to make linear sense.
- Teach chord progression by third as well as by fifth and second.
- Encourage students to write cadences first and then fill in the rest of the progression.
- Teach students to avoid nondominant seventh chords and all six-four chords except the cadential six-four.
- Try to include ear-training activities in every class.
- Teach students to analyze the basic features of the melody before singing.
- Teach students solfège or to sight-sing using numbers.

AP Physics B

**AP Physics B
Number of Exams, 2002–2006**



**AP Physics B
Examinees by Grade Level, 2006**



Exemplary AP Physics B Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Physics B.

Small-size school (<300 students in grades 10–12):

Devon Preparatory School (Devon, PA)

- Head of School: Rev. James J. Shea, Sch.P.
- AP Teacher: Rev. James J. Shea, Sch.P.

Medium-size school (300–799 students in grades 10–12):

University of Chicago Lab High School (Chicago, IL)

- Head of School: David Magill
- AP Teacher: David Derbes

Large-size school (800+ students in grades 10–12):

Harvard-Westlake School (North Hollywood, CA)

- Head of School: Jeanne M. Huybrechts
- AP Teachers: Karen Hutchinson, Jesse Reiner, James Patterson, Deborah Dowling, Antonio Nassar

School with the Largest Number of African American Students Scoring 3+: Eleanor Roosevelt High School (Greenbelt, MD)

- Head of School: Sylvester Conyers
- AP Teacher: Yau-Jong Twu

Schools with the Largest Number of Latino Students Scoring 3+:

Ransom Everglades School (Miami, FL)

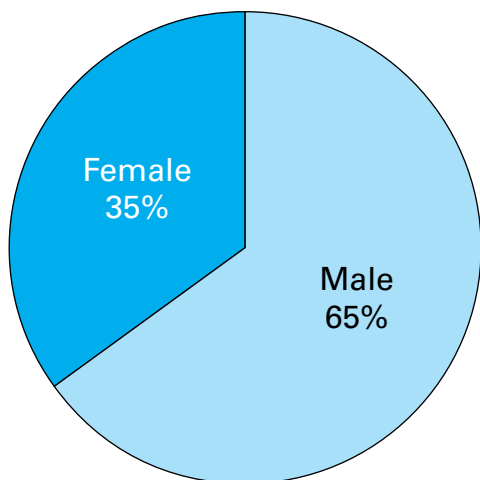
- Head of School: Ellen Mocerri
- AP Teacher: Caroline Mathis
- Teachers of Foundation Courses: Michael Becker, Jean Duty, Estelle Lockhart, Laura Miller

AP Grade Distribution, 2006

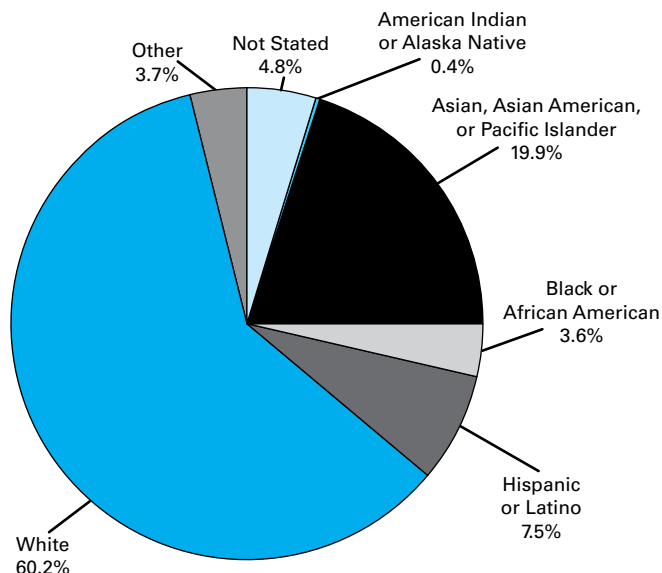
Exam Grade	Number of Examinees	%
Score of 5	6,551	12.8%
Score of 4	9,359	18.4%
Score of 3	14,894	29.2%
Score of 2	7,304	14.3%
Score of 1	12,879	25.3%
	50,987	100.0%

Number of Schools Offering This Course: 4,082

**AP Physics B
Examinees by Gender, 2006**



**AP Physics B
Examinees by Race and Ethnicity, 2006**



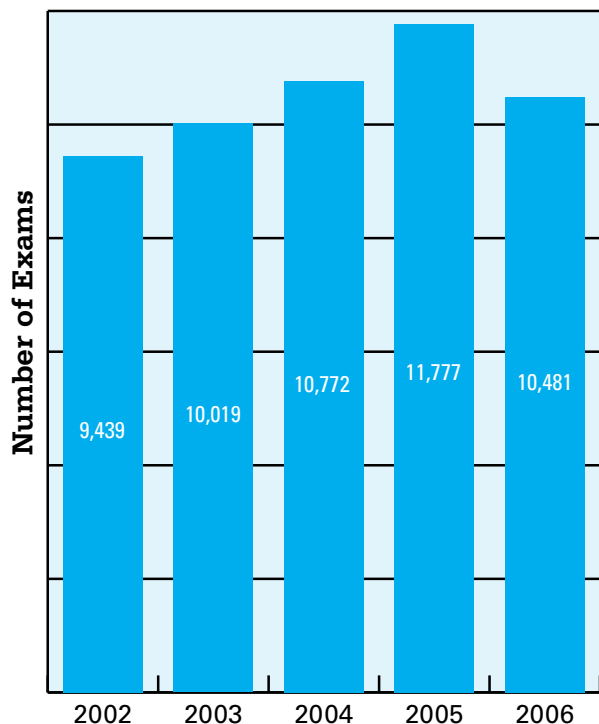
Feedback for Educators

The following observations on student learning in this AP course are derived from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

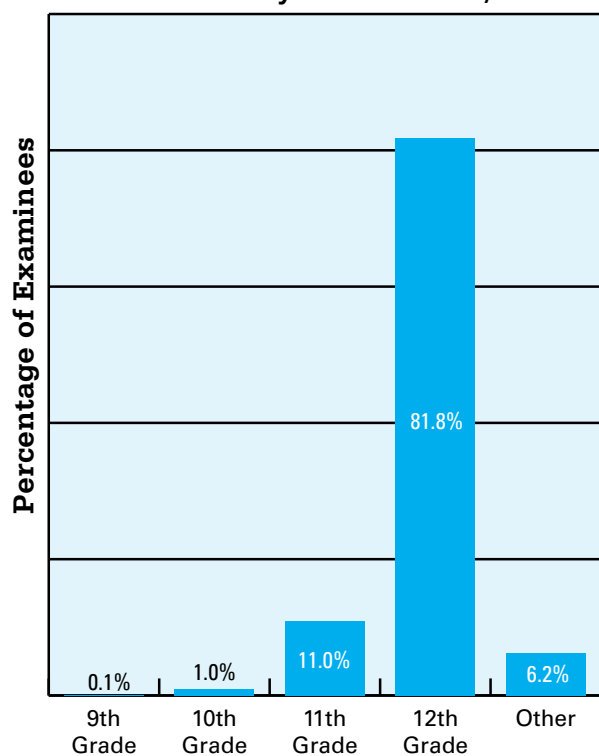
- In Free-Response Question 1, common student errors included calculating tension or time of free fall with the expression for the period of a pendulum or a mass on a spring from the equation list, incorrectly setting energy equal to force.
- In Free-Response Question 2, students often attempted to measure a runner's distance at fixed time intervals, an experimentally imprecise method, or they did not take enough data points to adequately characterize the runner's motion over the entire run. They had to realize that there were two kinematically distinct stages that had to be handled separately.
- For Question 3, those students who understood the vector nature of electric field strength and the scalar nature of potential performed the best. Significant attention needs to be paid to the electrostatics of point charges.
- Graphical analysis is an important skill and was necessary to adequately address Question 4, which dealt with index of refraction. Students should be able to identify the important variables in a problem that can be graphed, draw a best fit line from the data points, find the slope of the line, and draw conclusions from the graph. The second part of the question dealt with thin-film interference, in which many students clearly did not understand the boundary behavior, often incorrectly applying the double-slit equation, and using the incorrect wavelength of light in air instead of in the film.
- In Question 5, many of the students who did not use temperature/pressure/volume ratios failed to use the initial states of the gas to calculate the number of moles, which would have allowed them to find the unknown temperatures. Students who realized that the network was the triangular area generally did well. The correct use of signs was very important.
- An understanding of modern physics, particularly photon energy and wave-particle duality, was necessary to do well in Question 6.
- Make sure students recognize the importance of utilizing decimal places in calculations.
- Students should understand the importance of showing their work and using proper units, especially in their answers.
- Students need extensive practice in experimental technique, best acquired from their engagement in experiments designed to be "performed with understanding."
- Students should have a great deal of practice in problem solving that requires them to bring together concepts and results from different areas within physics.
- Make sure that students know the meaning of the term "justify" when it is required of them, and how to avoid circular reasoning. Simple reliance on the recall of formulas alone is usually not sufficient.

AP Physics C: Electricity and Magnetism

**AP Physics C: Electricity and Magnetism
Number of Exams, 2002–2006**



**AP Physics C: Electricity and Magnetism
Examinees by Grade Level, 2006**



Exemplary AP Physics C: Electricity and Magnetism Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Physics C: Electricity and Magnetism.

Small-size school (<300 students in grades 10–12):

Oklahoma School of Science and Mathematics (Oklahoma City, OK)

- Head of School: Edna McDuffie Manning
- AP Teachers: Dr. Kurt Bachmann, Dr. R. Shayne Johnston, Dr. Xifan Liu, Dr. Jayanta Rudra
- Teachers of Foundation Courses: Dr. Kurt Bachmann, Dr. R. Shayne Johnston, Dr. Xifan Liu, Dr. Jayanta Rudra, Tony Cornforth, Chengde Feng, Yunhua Feng, John Gleason, Dr. Taras Odushkin, Daryl Schwerdtfeger, Dr. Edna McDuffie Manning, Dr. Frank Wang, Dr. Adrian Zimmer

Medium-size school (300–799 students in grades 10–12):

Illinois Mathematics and Science Academy (Aurora, IL)

- Head of School: Dr. Stephanie Pace Marshall
- AP Teachers: Dr. David Workman, Dr. John Eggebrecht
- Teachers of Foundation Course: Diane Hinterlong, Dr. Mark Horrell, Branson Lawrence

Large-size school (800+ students in grades 10–12):

Phillips Academy (Andover, MA)

- Head of School: Barbara L. Chase
- AP Teachers: Clyfe Beckwith, Mika Latva-Kokko, Caroline Odden, Kathleen Pryde, J. Peter Watt, Fei Yao

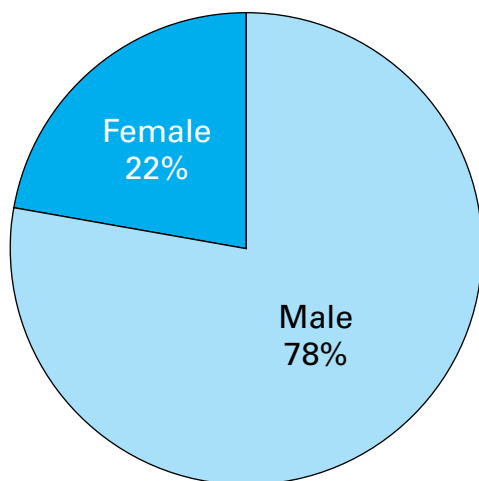
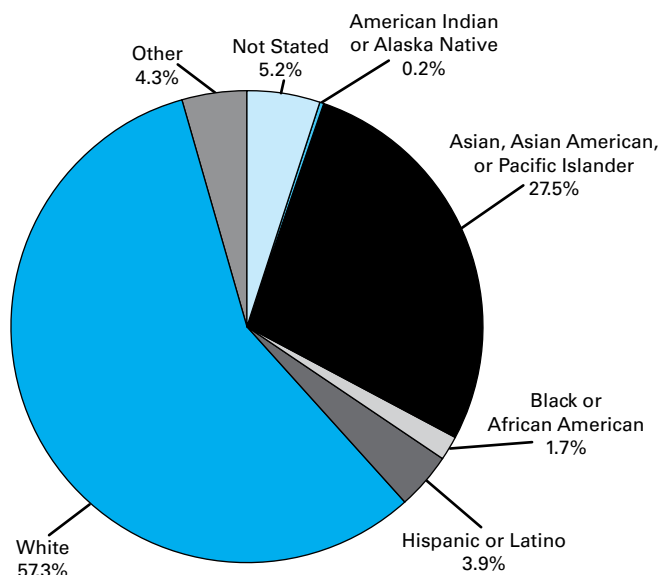
School with the Largest Number of Latino Students Scoring 3+:
Miami Coral Park Senior High School (Miami, FL)

- Head of School: Dr. Nick JacAngelo
- AP Teacher: Ricardo Markland

AP Grade Distribution, 2006

Exam Grade	Number of Examinees	%
Score of 5	3,626	34.6%
Score of 4	2,498	23.8%
Score of 3	1,298	12.4%
Score of 2	1,747	16.7%
Score of 1	1,312	12.5%
	10,481	100.0%

Number of Schools Offering This Course: 1,401

AP Physics C: Electricity and Magnetism
Examinees by Gender, 2006AP Physics C: Electricity and Magnetism
Examinees by Race and Ethnicity, 2006

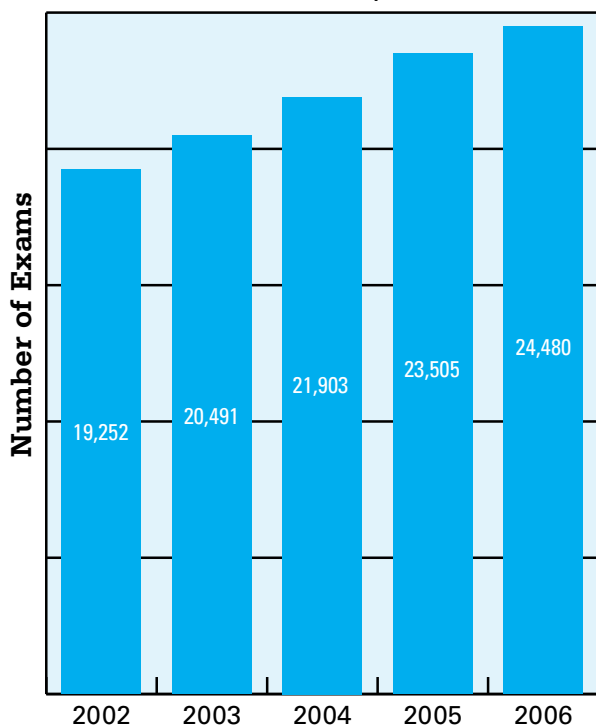
Feedback for Educators

The following observations on student learning in this AP course are derived from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

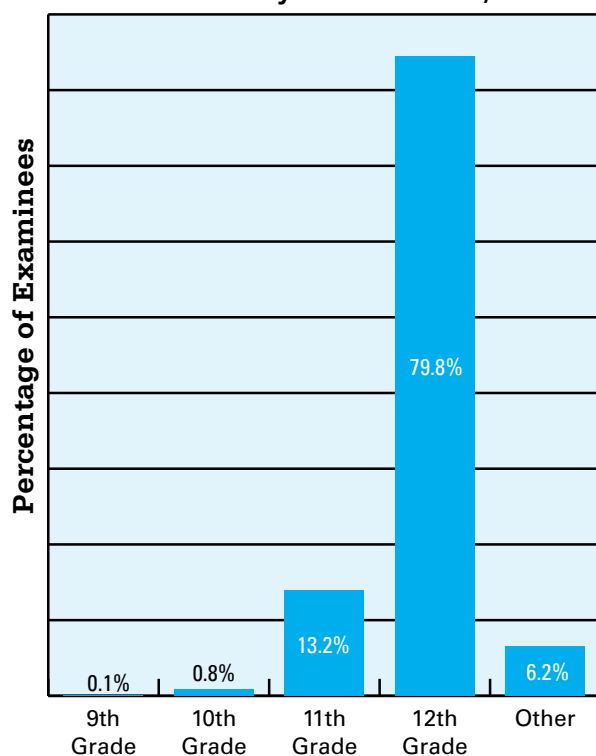
- For Free-Response Question 1, those students who understood the vector nature of electric field strength and the scalar nature of potential performed the best. Students need to know when to apply Coulomb's Law and the law of superposition. Also, some students attempted to obtain the potential by integrating the field, a very difficult task. There was some misunderstanding of the term *derive* as it should be used in this context. See the AP Physics Course Description for an exact meaning of this term and others that are important for teachers to know. Assignment of signs—for example, for work—was important. Also, many students were unclear in their directions for charge replacement.
- In attempting Question 2, the most common mistakes in part (a) were providing incorrect loop equations and incorrect voltage for the capacitor, and omitting the expression of current as dQ/dt . In part (b), a correct differential equation from part (a) was needed, and then a correct integration. Part (c), in turn, required a correct answer from part (b), setting it equal to CV . Here it was obvious by the number of answers that were greater than the time constant that most students were not familiar with this situation. The most common error for part (d) was not having the currents converge after some time, with many students getting the two currents backward.
- For Question 3, part (a), some students failed to conclude that the force on the upper arm was zero, and/or gave incorrect directions for the forces on the other three sides of the loop. In part (b), w should have been used as the length of the wire, and many students incorrectly used the Biot-Savart Law or Ampere's Law to find B . In part (c), many had difficulty calculating $\Delta\phi/\Delta t$, and in the equation $\mathbf{E} = \mathbf{B} \ell \mathbf{v}$, they used the incorrect length. In part (d), those who attempted $P = IV$ had difficulty deciding what expression to use for V . There was some difficulty articulating justification for the answers in part (e), failing to address the fact that I depends on B .
- Students should make sure their answers are not just restating the questions, and they should show all of their work.

AP Physics C: Mechanics

AP Physics C: Mechanics
Number of Exams, 2002–2006



AP Physics C: Mechanics
Examinees by Grade Level, 2006



Exemplary AP Physics C: Mechanics Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Physics C: Mechanics.

Small-size school (<300 students in grades 10–12):

Oklahoma School of Science and Mathematics (Oklahoma City, OK)

- Head of School: Edna McDuffie Manning
- AP Teachers: Dr. Kurt Bachmann, Dr. R. Shayne Johnston, Dr. Xifan Liu, Dr. Jayanta Rudra
- Teachers of Foundation Courses: Dr. Kurt Bachmann, Dr. R. Shayne Johnston, Dr. Xifan Liu, Dr. Jayantra Rudra, Tony Cornforth, Chengde Feng, Yunhua Feng, John Gleason, Dr. Taras Odushkin, Daryl Schwerdtfeger, Dr. Edna McDuffie Manning, Dr. Frank Wang, Dr. Adrian Zimmer

Medium-size school (300–799 students in grades 10–12):

Illinois Mathematics and Science Academy (Aurora, IL)

- Head of School: Dr. Stephanie Pace Marshall
- AP Teachers: Dr. David Workman, Dr. John Eggebrecht
- Teachers of Foundation Courses: Diane Hinterlong, Dr. Mark Horrell, Branson Lawrence

Large-size school (800+ students in grades 10–12):

Phillips Academy (Andover, MA)

- Head of School: Barbara L. Chase
- AP Teachers: Clyfe Beckwith, Mika Latva-Kokko, Caroline Odden, Kathleen Pryde, J. Peter Watt, Fei Yao

School with the Largest Number of Latino Students Scoring 3+:

Miami Coral Park Senior High School

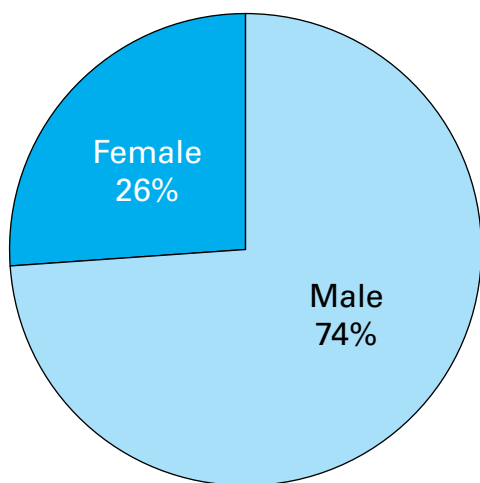
- Head of School: Dr. Nick JacAngelo
- AP Teacher: Ricardo Markland

AP Grade Distribution, 2006

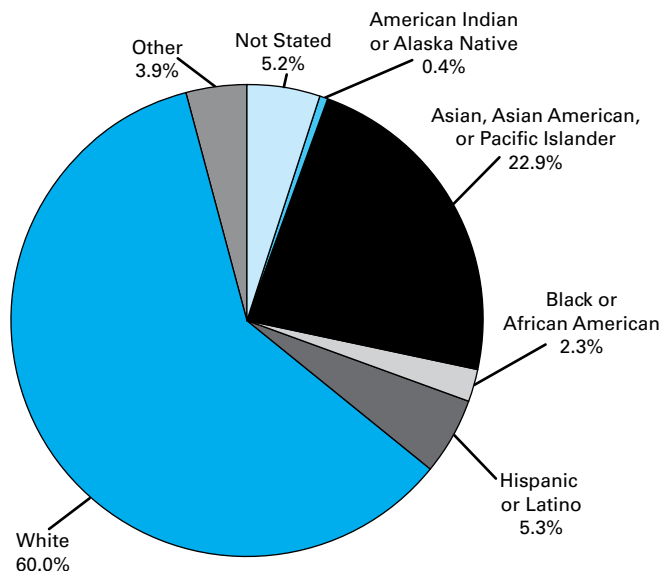
Exam Grade	Number of Examinees	%
Score of 5	5,929	24.2%
Score of 4	5,996	24.5%
Score of 3	5,188	21.2%
Score of 2	3,799	15.5%
Score of 1	3,568	14.6%
	24,480	100.0%

Number of Schools Offering This Course: 2,619

**AP Physics C: Mechanics
Examinees by Gender, 2006**



**AP Physics C: Mechanics
Examinees by Race and Ethnicity, 2006**

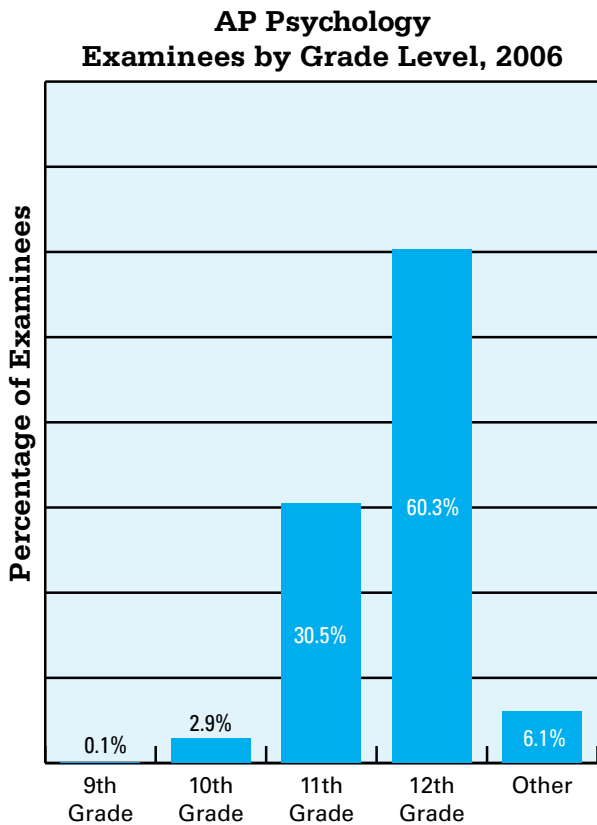
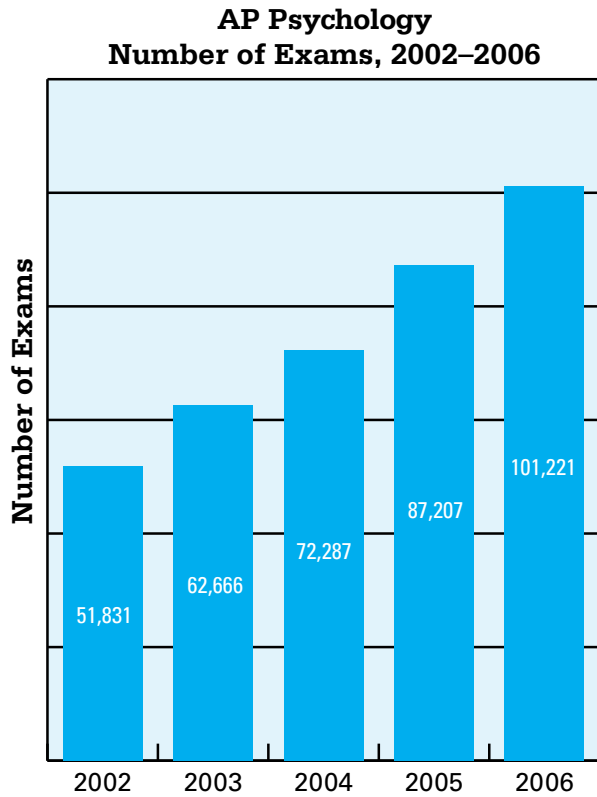


Feedback for Educators

The following observations on student learning in this AP course are derived from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

- For Free Response Question 1, the most common error was failing to correctly apply Newton's Third Law in considering the friction between the block and the slab, with many students assuming that the acceleration of the *block* equaled that of the slab. Also, many misread the question, calculating distance and work of the block instead of the slab.
- Common student errors and omissions for Question 2, part (a), included failing to clearly identify the two quantities to graph, and trying to calculate A using each pair of values in the data table. For part (c), many students failed to clearly plot the values identified in part (a). A common error in part (d) was either to use an incorrect relationship between the slope of the graph and the constant A , or to not clearly relate A to the slope. In part (e), some students used the constant-force expression $W = Fd$ to calculate work. Last, in part (f), a common mistake was to incorrectly apply the linear-spring expression $kx^2/2$ for the potential energy of the compressed spring.
- Although most of those students who attempted Question 3 got some credit, very few received full credit for parts (a) and (b). Most students used the conservation of mechanical energy approach to derive an expression for the velocity, but fewer than half arrived at the correct value. This was usually because they did not recognize that there were two forms of kinetic energy for the hoop and instead elected to use one or the other. For part (c), it was fairly common for students to begin calculation of the time correctly and then make a mistake in the algebra. It was also apparent that some of them felt the need to multiply the horizontal velocity from part (b) by $\cos\theta$ before using it in the equation $x = vt$. Many also were unable to recognize the relationship between angular acceleration and center-of-mass acceleration of a rolling object. A small number of them still erroneously believe that horizontal motion is accelerated for an object in free fall.
- Those students who started with the dynamic approach to first calculate acceleration met with little success by and large. A common problem was in writing the expression for torque ($I\alpha$) as part of the linear equation (i.e., $\Sigma F = ma + I\alpha$). Also, many of these students tried to calculate the friction using the static friction formula, giving the maximum possible value and not the actual one.
- Few students saw the easy way to link velocity and acceleration using kinematics. Even those who did well on parts (a) and (b) usually did so by doing independent calculations for those parts.
- Students showed considerable difficulty with experimental technique and data analysis.

AP Psychology



Exemplary AP Psychology Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Psychology.

Small-size school (<300 students in grades 10–12):

Early College at Guilford (Greensboro, NC)

- Head of School: Tony Lamair Burks II
- AP Teacher: Karen Cobb Carroll

Medium-size school (300–799 students in grades 10–12):

The Harker School (San Jose, CA)

- Head of School: Christopher Nikoloff
- AP Teacher: Dr. Naomi Schatz

Large-size school (800+ students in grades 10–12):

Great Neck South High School (Great Neck, NY)

- Head of School: Randolph Ross
- AP Teachers: David Moyal, Michelle Sorise, Kathy McAleer

School with the Largest Number of African American Students Scoring 3+: Stranahan High School (Ft. Lauderdale, FL)

- Head of School: Deborah Owens

School with the Largest Number of Latino Students Scoring 3+: Cypress Bay High School (Weston, FL)

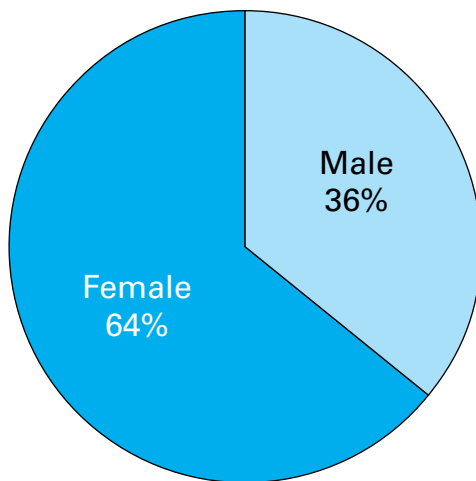
- Head of School: Charles Scott Neely
- AP Teachers: P. Rainone Wescheer, D. Geller

AP Grade Distribution, 2006

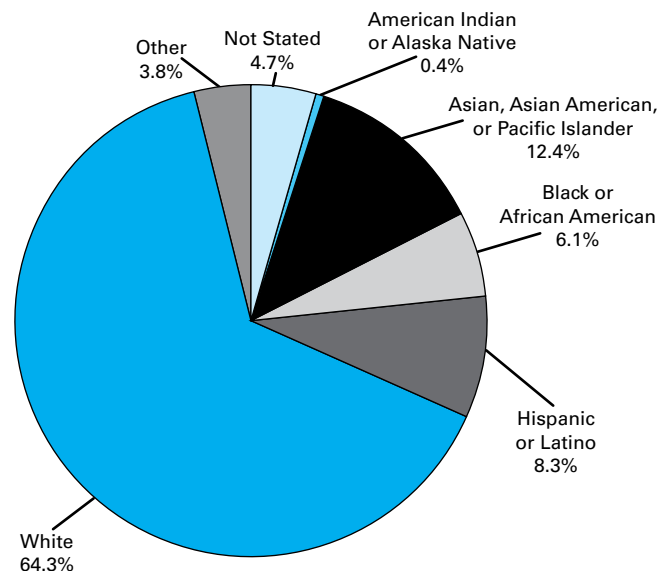
Exam Grade	Number of Examinees	%
Score of 5	19,737	19.5%
Score of 4	28,192	27.9%
Score of 3	20,552	20.3%
Score of 2	12,760	12.6%
Score of 1	19,980	19.7%
	101,221	100.0%

Number of Schools Offering This Course: 3,860

**AP Psychology
Examinees by Gender, 2006**



**AP Psychology
Examinees by Race and Ethnicity, 2006**



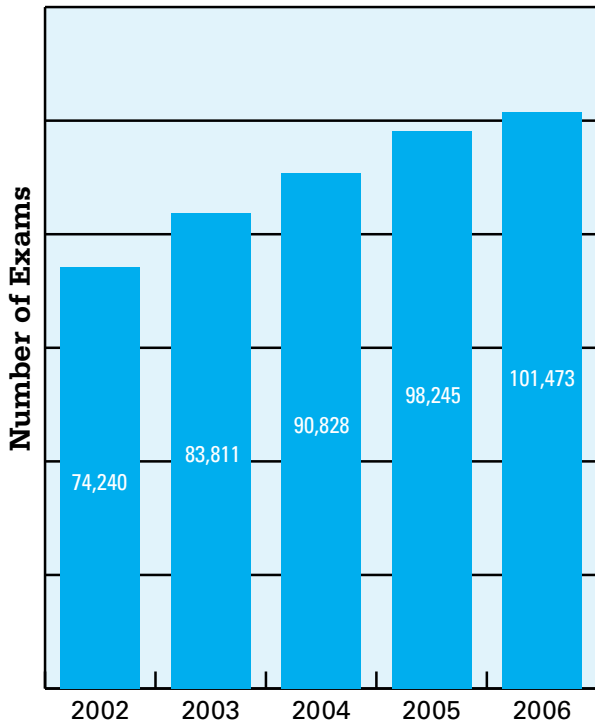
Feedback for Educators

The following observations on student learning in these AP courses are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

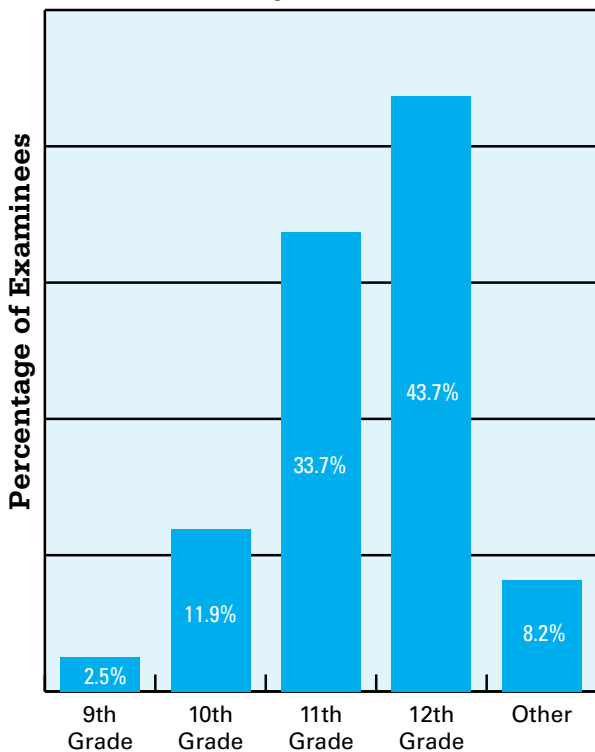
- Students often revealed that their genuine understanding of research methods was insufficiently crisp to provide true distinguishing features for each approach. These essays tended to be peppered with terminology that was not always relevant, as if students knew the terms but could not figure out which terms went with which method. The central importance of research methods virtually guarantees that a substantial number of questions on future AP Psychology Exams will deal with them. That does not mean that every year there will be a research question, but it behooves teachers to ensure that students do not get shortchanged in the time and processes invested in this important area.
- There did not appear to be any specific research concept that scored inappropriately low, but a lack of mastery of research concepts overall suggests that the nature of content coverage can be challenging for high school teachers because even those with the best skills and intentions might elect to leave out a concept that could end up on the AP Exam.
- Students should be reminded to read the question carefully. Some students lost time by defining terms before getting to the real task of generating relevant examples.

AP Spanish Language

**AP Spanish Language
Number of Exams, 2002–2006**



**AP Spanish Language
Examinees by Grade Level, 2006**



Exemplary AP Spanish Language Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Spanish Language.

Small-size school (<300 students in grades 10–12):
Oratory Athenaeum University Preparatory (Pharr, TX)

- Head of School: Rev. Mario Alberto Aviles, C.O.
- AP Teacher: Monica M. Loya

Medium-size school (300–799 students in grades 10–12):
Cristo Rey Jesuit High School (Chicago, IL)

- Head of School: Patricia Garrity

Large-size school (800+ students in grades 10–12):
Sunset High School (Dallas, TX)

- Head of School: Emilio Castro
- AP Teachers: Thomas Spring, Dale Reeves, Joe Reyes

Schools with the Largest Number of Latino Students Scoring 3+:
La Joya High School (La Joya, TX)

- Head of School: Judith Solis
- AP Teachers: Yolanda Garcia, Jesus Tavaracz, Martha Trevino, Alberto Garza, Luis Montemayor, Ana Santos, Cynthia Garcia, Eugenio Milla
- Teachers of Foundation Courses: Horacio Gomez, Lilia Lipps

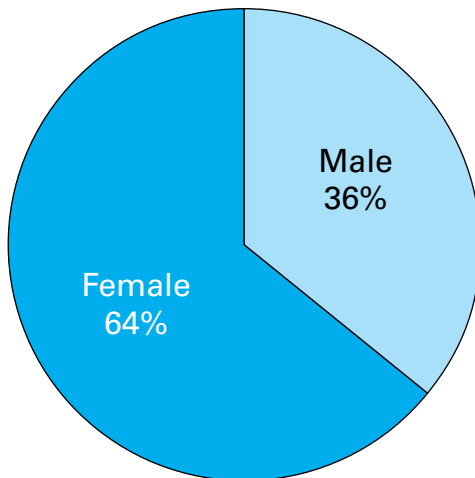
AP Grade Distribution, 2006

	Exam Grade	Number of Examinees	%
Standard Group*	Score of 5	3,822	8.6%
	Score of 4	7,128	16.1%
	Score of 3	13,743	31.1%
	Score of 2	11,590	26.2%
	Score of 1	7,943	18.0%
		44,226	100.0%
Total Group	Score of 5	23,718	23.4%
	Score of 4	24,812	24.5%
	Score of 3	28,291	27.9%
	Score of 2	15,573	15.3%
	Score of 1	9,079	8.9%
		101,473	100.0%

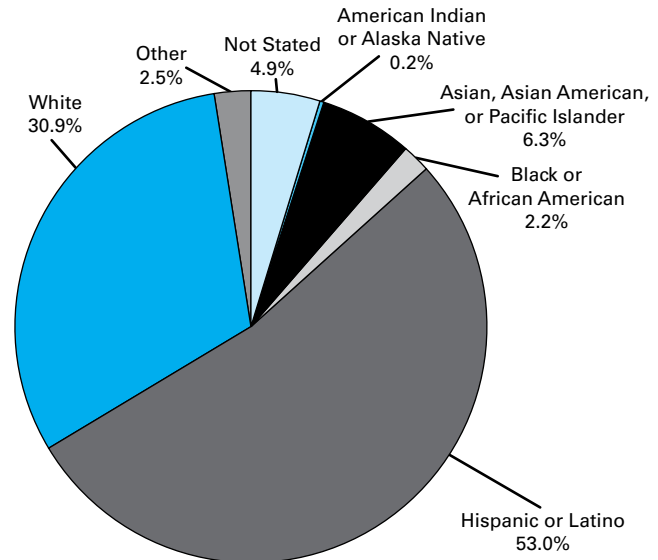
*Standard students generally receive most of their foreign language training in U.S. schools. They did not indicate on their answer sheet that they regularly speak or hear the foreign language of the examination, or that they have lived for one month or more in a country where the language is spoken.

Number of Schools Offering This Course: 6,322

**AP Spanish Language
Examinees by Gender, 2006**



**AP Spanish Language
Examinees by Race and Ethnicity, 2006**



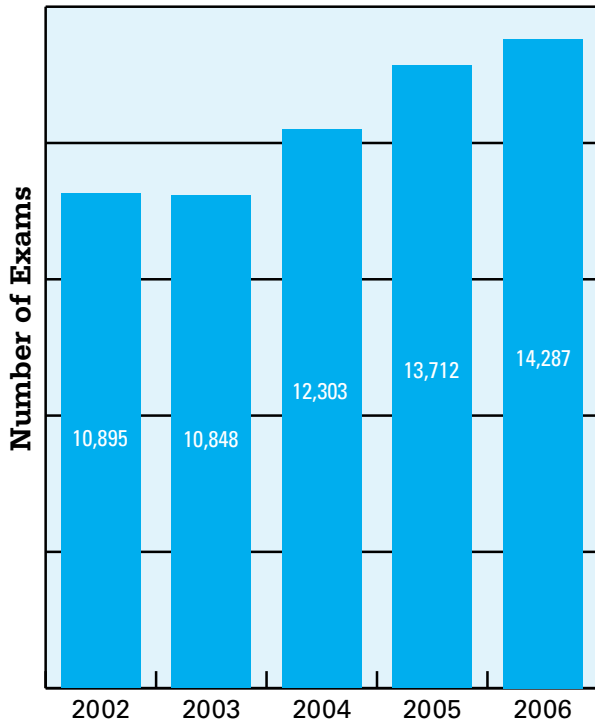
Feedback for Educators

The following observations on student learning in this AP course are derived from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

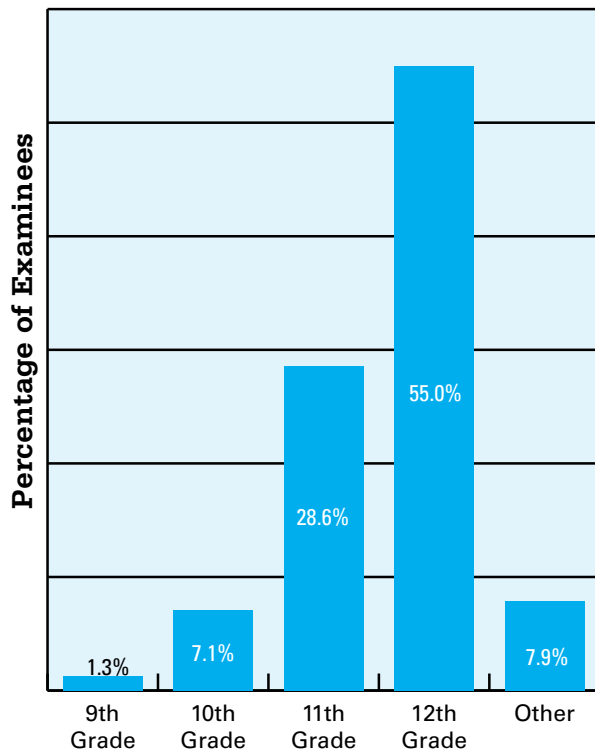
- The most effective strategy for success on the sentence and paragraph completion sections is to read the text completely before writing anything. Regular opportunities to practice this type of exercise in class tend to improve students' success with this portion of the writing component.
- Students must clearly understand correct placement of accents, orthographical changes, subjunctive uses, direct commands, subject-verb and noun-adjective agreement, and sequencing of verb tenses in order to maximize their success on the fill-in section of the exam.
- Essay writing and the writing process should be practiced throughout the year. Teachers can help students become accustomed to engaging in pre-writing strategies, writing a thesis statement, developing paragraphs or ideas in a well-organized fashion, and writing a conclusion that goes beyond a summation of the preceding content.
- Reading Spanish prose from a variety of original sources helps both reading comprehension skills as well as the development of a breadth of vocabulary skills.
- Teachers should help their students learn to synthesize, elaborate, paraphrase, and cite. These skills will enrich both speaking and writing components of the exam.
- A mastery of verbs, vocabulary, expressions, and phrases beyond the most basic level of the lexicon is necessary.
- It is essential that students, teachers, and proctors be familiar with the recording equipment prior to the day of the actual exam.
- It is important to expose students to a variety of voices, speakers, and accents from authentic sources.

AP Spanish Literature

**AP Spanish Literature
Number of Exams, 2002–2006**



**AP Spanish Literature
Examinees by Grade Level, 2006**



Exemplary AP Spanish Literature Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Spanish Literature.

Small-size school (<300 students in grades 10-12):

Oratory Athenaeum University Preparatory (Pharr, TX)

- Head of School: Rev. Mario Alberto Aviles, C.O.
- AP Teacher: Monica M. Loya

Medium-size school (300-799 students in grades 10-12):

Kent Denver School (Englewood, CO)

- Head of School: Todd Horn
- AP Teachers: Lynda Herring, Eric Dawson
- Teacher of Foundation Courses: Daniel Gilden

Large-size school (800+ students in grades 10-12):

Montgomery High School (San Diego, CA)

- Head of School: Samuel M. Montes
- AP Teacher: Sonia L. Gerardo-Perkins
- Teachers of Foundation Courses: Viviana Timmons, Rebekah Lombrozo

School with the Largest Number of Latino Students Scoring 3+:

Montgomery High School (San Diego, CA)

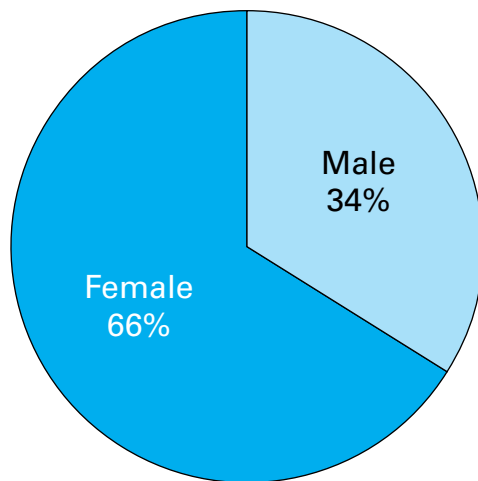
- Head of School: Samuel M. Montes
- AP Teacher: Sonia L. Gerardo-Perkins
- Teachers of Foundation Courses: Viviana Timmons, Rebekah Lombrozo

AP Grade Distribution, 2006

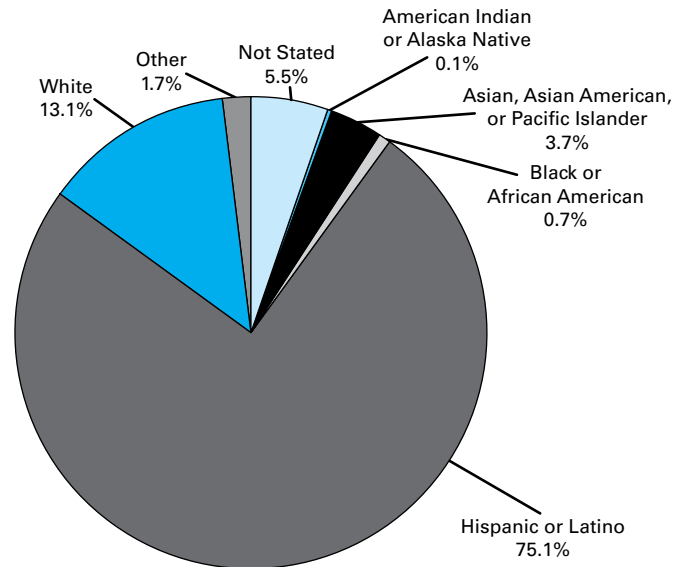
Exam Grade	Number of Examinees	%
Score of 5	1,681	11.8%
Score of 4	2,982	20.9%
Score of 3	4,165	29.2%
Score of 2	2,161	15.1%
Score of 1	3,298	23.1%
	14,287	100.0%

Number of Schools Offering This Course: 1,415

**AP Spanish Literature
Examinees by Gender, 2006**



**AP Spanish Literature
Examinees by Race and Ethnicity, 2006**

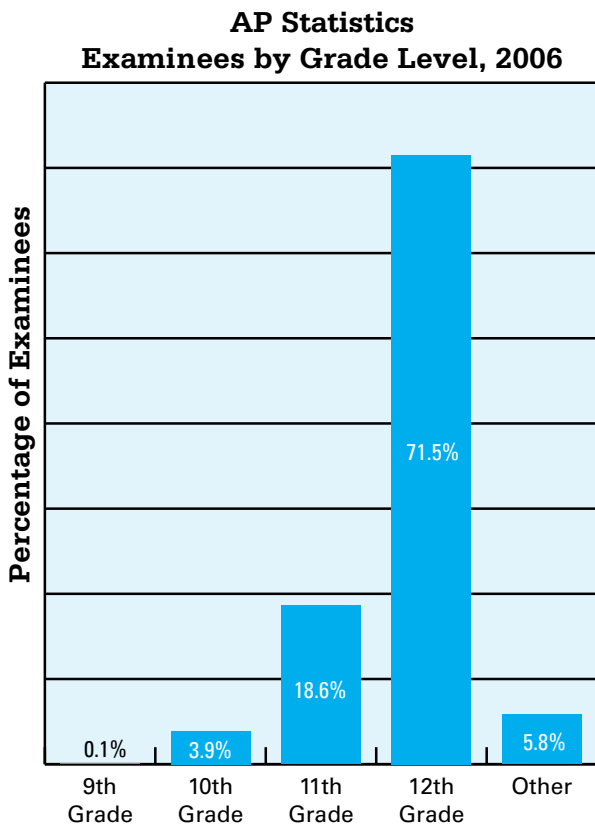
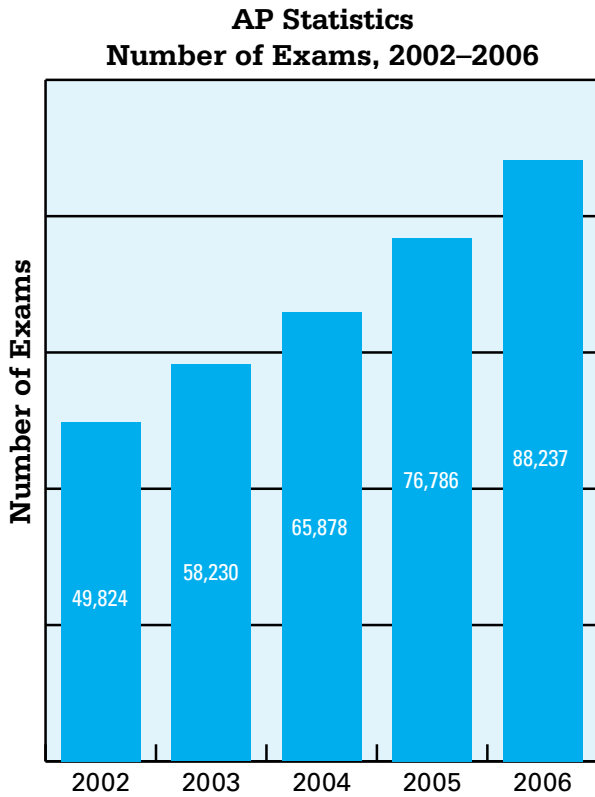


Feedback for Educators

The following observations on student learning in this AP course are derived from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

- Teachers should stress to their students the need to read all of the works on the required reading list so that they will have a more fully developed perspective and a better choice when faced with thematic exam questions. Teachers can help their students through a close reading of all the works, including consideration of vocabulary and/or linguistic or stylistic features.
- The poetry question appears yearly on the exam, although the poem does not come from the required reading list. Students should be taught to read the poem carefully, making note of the forms, poetic devices, and rhyme that support the poem's theme as indicated in the prompt.
- Teachers should help students write effective thesis statements and conclusions as well as show them how to develop and properly support their ideas in the analysis. Students should avoid paraphrasing and plot summary in favor of a thorough analysis. Student comments should be integrated into the essay rather than merely listed.
- When performing thematic analysis, students should take time to think through the topic, jot down relevant notes concerning the character(s) and situations through which this theme is evidenced, and outline the essay briefly before beginning to write. It is essential that students clearly state which works they are treating and limit their responses to include the two works as stipulated in the instructions.

AP Statistics



Exemplary AP Statistics Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Statistics.

Small-size school (<300 students in grades 10–12):

Roxbury Latin School (West Roxbury, MA)

- Head of School: Kerry P. Brennan
- AP Teachers: John Lieb, Liv Carroll

Medium-size school (300–799 students in grades 10–12):

Greenhill School (Addison, TX)

- Head of School: Scott Griggs
- AP Teachers: Michael Legacy, Jack Oros

Large-size school (800+ students in grades 10–12):

Mission San Jose High School (Fremont, CA)

- Head of School: Stuart Kew
- AP Teachers: Jon Frydendahl, David Lau
- Teachers of Foundation Courses: Alda O’Neill, Leslie Graves

School with the Largest Number of Latino Students Scoring 3+:

Northside College Preparatory High School (Chicago, IL)

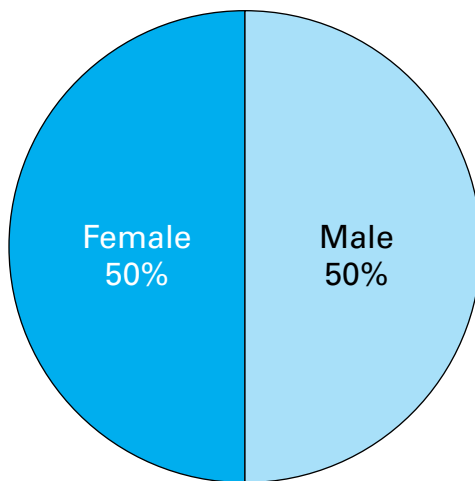
- Head of School: James C. Lalley
- AP Teachers: Yvonne Smith, Elizabeth Runkel
- Teachers of Foundation Courses: Thuy Ngo, Martha Mulligan, Robert Albritton, Nicole Flores, Jill Naughton, Elizabeth Tomasiewicz

AP Grade Distribution, 2006

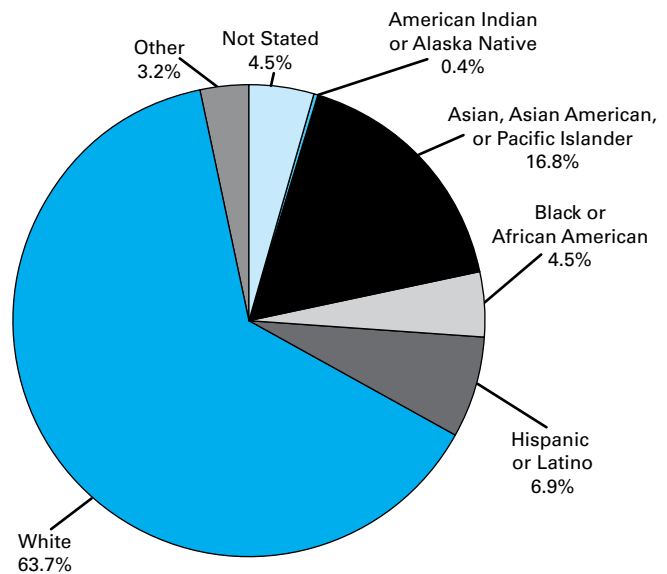
Exam Grade	Number of Examinees	%
Score of 5	11,154	12.6%
Score of 4	19,568	22.2%
Score of 3	22,357	25.3%
Score of 2	16,119	18.3%
Score of 1	19,039	21.6%
	88,237	100.0%

Number of Schools Offering This Course: 4,464

**AP Statistics
Examinees by Gender, 2006**



**AP Statistics
Examinees by Race and Ethnicity, 2006**



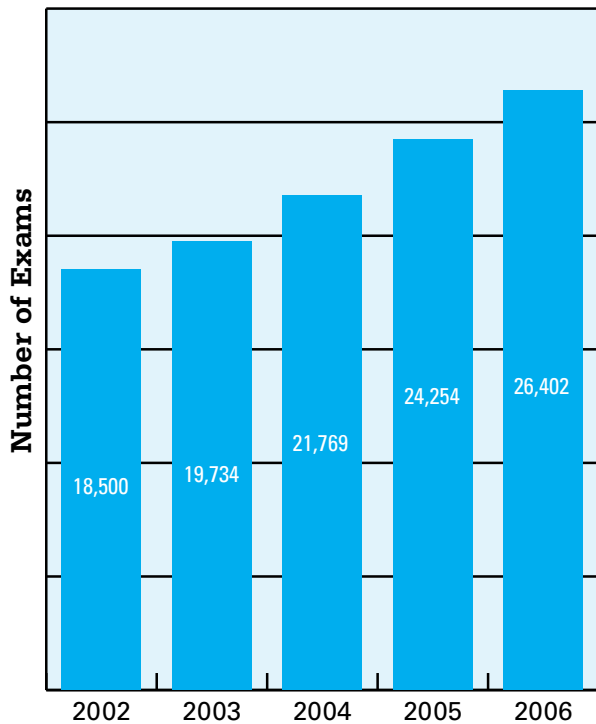
Feedback for Educators

The following observations on student learning in this AP course are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

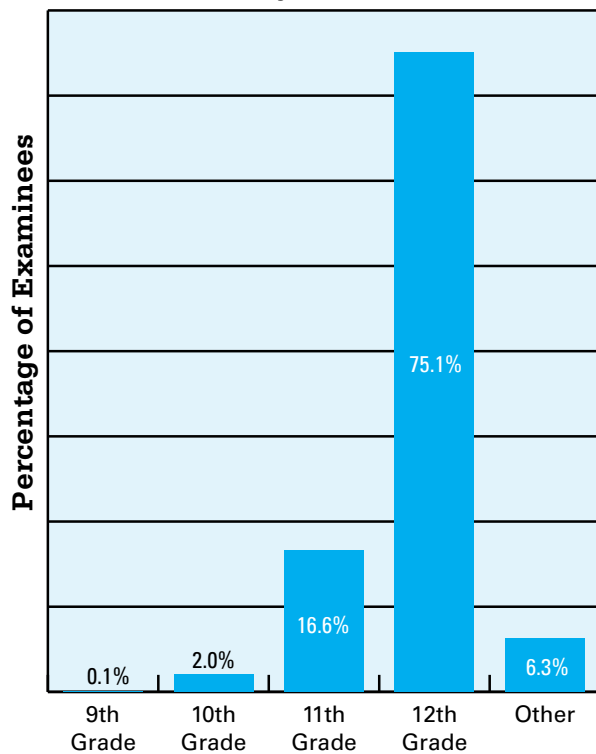
- Students should be encouraged to answer each exam question completely but succinctly.
- Many students are able to correctly identify requested values in computer output but are unable to interpret those values in a meaningful way in the context of a given problem. Teachers should be sure that students are able to connect numbers in computer output to the context of a given problem and can correctly interpret the meaning of those numbers in context.
- Students who used a drawing in their solution were more likely to understand what was being asked and made fewer mistakes. Encouraging students to represent a probability with a drawing may help them better internalize the meaning of that probability.
- Generally, students should be sure to answer the question that is being presented and include supporting work that is consistent with their conclusions and/or final numerical results.
- For questions that require the application of a particular statistical test or procedure, students should understand which test or procedure is appropriate for the given situation and be able to justify its use by verifying appropriate assumptions or conditions.
- Helping students to understand what the treatments are in an experiment and the reasons (and details) of the related randomization(s) may help them to improve their performance on design questions.

AP Studio Art¹³

**AP Studio Art
Number of Exams, 2002–2006**



**AP Studio Art
Examinees by Grade Level, 2006**



Exemplary AP Studio Art Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP Studio Art.

Small-size school (<300 students in grades 10–12):

Convent of the Sacred Heart (New York, NY)

- Head of School: Patricia Hult

Medium-size school (300–799 students in grades 10–12):

Design and Architecture Senior High School (Miami, FL)

- Head of School: Dr. Stacey Mancuso
- AP Teachers: Ellen Abramson, Tavano Hill, Dr. Stacey Mancuso, Efrain Montesino, Tracy Regan
- Teachers of Foundation Courses: Krzysztof Jurczynski, Susan Maguire

Large-size school (800+ students in grades 10–12): Alex W.

Dreyfoos School of the Arts (West Palm Beach, FL)

- Head of School: Ellen Van Arsdale
- AP Teachers: Peter Stodolak, Constance Rudy, John Griffen, Jane Grandusky, Scott Armetta, Marsha Cristo

School with the Largest Number of African American

Students Scoring 3+: Design and Architecture Senior High School (Miami, FL)

- Head of School: Dr. Stacey Mancuso
- AP Teachers: Ellen Abramson, Tavano Hill, Dr. Stacey Mancuso, Efrain Montesino, Tracy Regan
- Teachers of Foundation Courses: Krzysztof Jurczynski, Susan Maguire

School with the Largest Number of Latino Students Scoring 3+:

Design and Architecture Senior High School (Miami, FL)

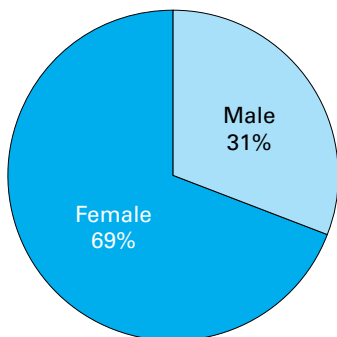
- Head of School: Dr. Stacey Mancuso
- AP Teachers: Ellen Abramson, Tavano Hill, Dr. Stacey Mancuso, Efrain Montesino, Tracy Regan
- Teachers of Foundation Courses: Krzysztof Jurczynski, Susan Maguire

AP Grade Distribution, 2006

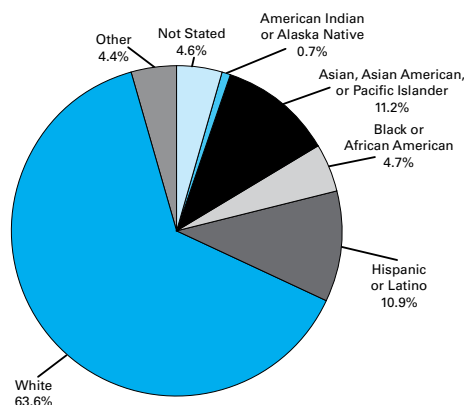
Exam Grade	Number of Examinees	%
Score of 5	2,459	9.3%
Score of 4	4,797	18.2%
Score of 3	10,212	38.7%
Score of 2	7,451	28.2%
Score of 1	1,483	5.6%
	26,402	100.0%

Number of Schools Offering This Course: 3,709

AP Studio Art
Examinees by Gender, 2006



AP Studio Art
Examinees by Race and Ethnicity, 2006



Feedback for Educators

The following observations on student learning in this AP course are derived from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

The 2-D Design Portfolio showed signs of students' and teachers' struggles to clearly distinguish between 2-D Design and Drawing. Readers evaluate work in this section based on its design qualities. Everything that happens on a two-dimensional surface is designed. All works are evaluated primarily on successful manipulation of the *principles of design*.

2-D Design: Quality. It is in this section that the controversy about technique versus design often arises. It is possible to create a beautifully made, technically proficient photograph and yet have this work be less than successful as an example of effective two-dimensional design. The converse is also true—a work may be a very effective design but show only a rudimentary command of the medium.

2-D Design: Concentration. The concentration section of this portfolio continued to suffer from uneven understanding of the concept of concentration, as well as inconsistent *development of visual ideas*. Teachers might look to bodies of work by famous artists to help students understand what is meant by the phrase *development of a visual idea*. Refer to Richard Diebenkorn's Ocean Park series, Joseph Cornell's Medici series of assemblage boxes, Deborah Butterfield's horses, and Faith Ringgold's story quilts as examples.

2-D Design: Breadth. Students continued to really struggle with the concept of breadth. Readers saw many portfolios that defined breadth as simply many works in different media, without any breadth of approach evident. 2-D Design also received the most portfolios that use a single medium (frequently photography) to demonstrate breadth. Though it is possible to articulate a variety of design issues in a single medium, often the students who attempt this are not really focusing on a breadth of design issues. Those who wish to

execute this section in a single medium should select works in which the breadth of their approach is obvious.

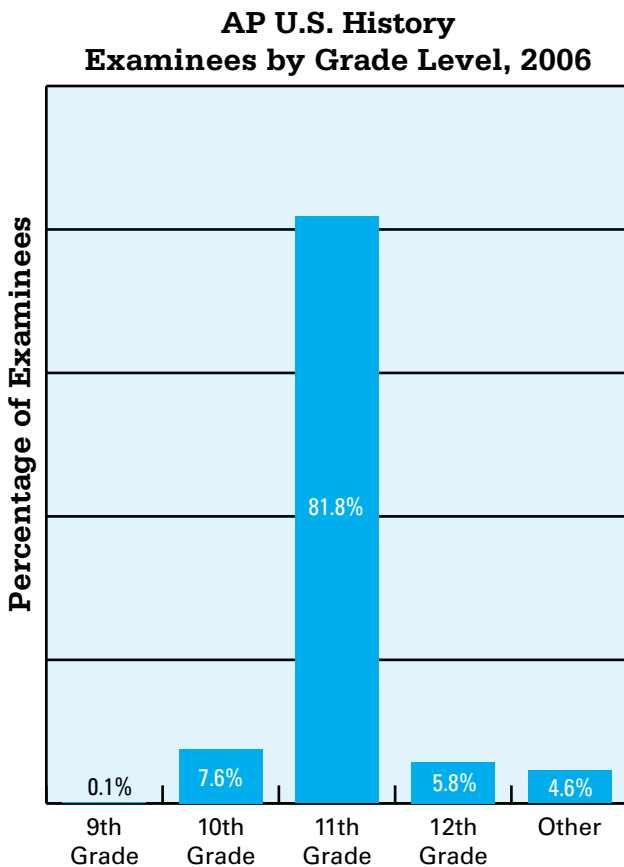
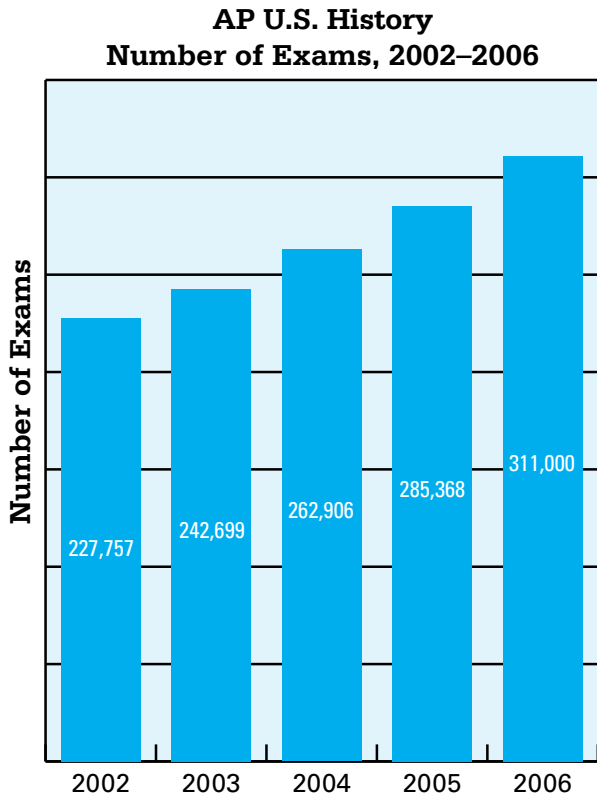
The 3-D Design Portfolio. Usually AP Studio Art's star portfolio, Readers reported a drop in the quality of work. Overall, the work seemed not as focused or as engaged with design principles as in previous years. As pointed out in previous years, there is a consistent problem with detail slides and second views that is most obvious in this portfolio. Students often include details that are not very informative and second views that do not display much more information than the first view. This is a wasted opportunity. Second views and details that truly deliver more information help the Readers understand the work better and score accurately.

3-D Design: Breadth. The best work in this section incorporated breadth of approach and media, but many 3-D breadth sections were still not very broad.

The Drawing Portfolio has traditionally yielded higher-quality work overall, at least in part because of its clarity and focus. Possibly another aspect of this success is the fact that drawing can be taught very well with a minimum of tools and equipment. Furthermore, most high school teachers understand that drawing is a fundamental art skill, and it is usually a keystone in art programs.

Drawing: Concentration. It is clear that students and teachers are struggling with the goals and definitions of concentration. The AP Studio Art Poster and AP Studio Art Course Description ask for sustained development of a *visual idea* in this section, and this is often the element that Readers found lacking in the work. Readers remarked that concentration statements often did not relate to the actual submissions. Many students did not provide a sufficiently strong visual concept, one able to sustain them over the course of the creation of a concentration. Teachers are encouraged to help students develop their ideas first, perhaps by emphasizing coherence and a body of work that holds together.

AP U.S. History



Exemplary AP U.S. History Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP U.S. History.

Small-size school (<300 students in grades 10–12):

Keystone School (San Antonio, TX)

- Head of School: Hugh McIntosh
- AP Teacher: Dian Degnan
- Teacher of Foundation Courses: Bill Spedding

Medium-size school (300–799 students in grades 10–12):

San Francisco University High School (San Francisco, CA)

- Head of School: Michael Diamonti
- AP Teachers: Carolyn McNulty, Jess Berrett

Large-size school (800+ students in grades 10–12):

Thomas Jefferson High School for Science and Technology (Alexandria, VA)

- Head of School: Evan Glazer, Ph.D.
- AP Teachers: David Kobrin, Janet Vallone, Jennifer Bain, Larry Helm, John Struck
- Teachers of Foundation Courses: Neil Kelly, Aaron Sachs, Melissa Schoeplein, Jennifer Bain, Patrick McCarthy, Ronald Maney, Carolyn Gecan

School with the Largest Number of African American

Students Scoring 3+: Southwest DeKalb High School (Decatur, GA)

- Head of School: John Prince
- AP Teachers: Raymond Maple, James Bailey

School with the Largest Number of Latino Students Scoring 3+:

Miami Palmetto Senior High School (Miami, FL)

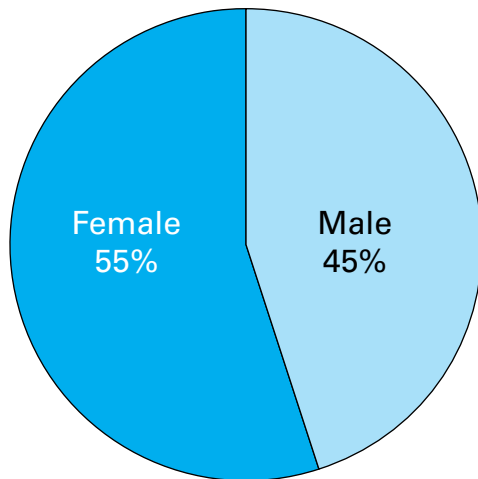
- Head of School: Howard I. Weiner
- AP Teachers: James Beverly, David Danier-Best, Jose Gregory
- Teachers of Foundation Courses: Gloria Bagwell, Pete Clayton

AP Grade Distribution, 2006

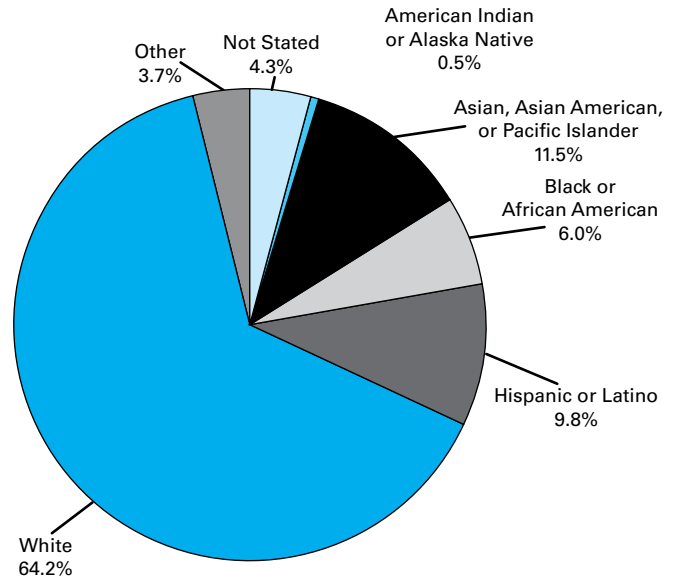
Exam Grade	Number of Examinees	%
Score of 5	34,070	11.0%
Score of 4	61,911	19.9%
Score of 3	69,103	22.2%
Score of 2	81,153	26.1%
Score of 1	64,763	20.8%
	311,000	100.0%

Number of Schools Offering This Course: 10,465

**AP U.S. History
Examinees by Gender, 2006**



**AP U.S. History
Examinees by Race and Ethnicity, 2006**

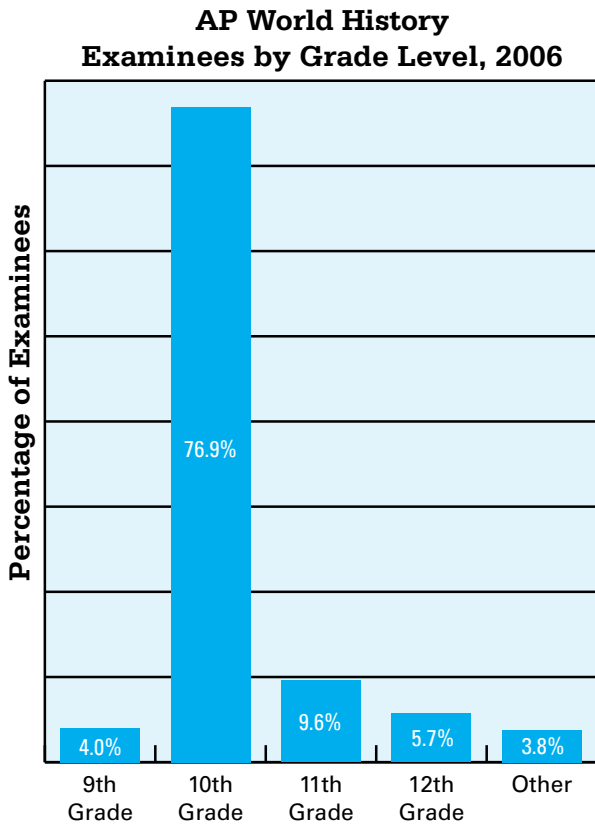
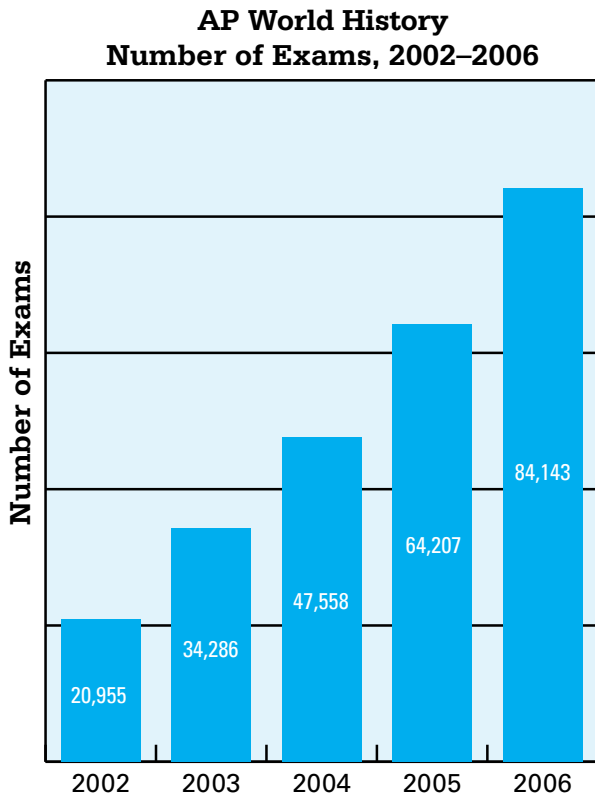


Feedback for Educators

The following observations on student learning in these AP courses are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

- A large number of students misunderstood the concepts of republican motherhood and the cult of domesticity and often conflated the two. Students had difficulty explaining the ideals and addressing the issue of class, and many students provided limited outside information. Students need to have a strong foundation in women's history and understand the role of ideals in society and their impact on people's lives. They must also be familiar with social history themes of race and class.
- Teachers should remind students to refrain from extensively quoting from the documents or discussing them in great detail—they should answer the question by integrating outside information with document analysis.
- For the Colonial period, many students revealed gaps in chronological and geographical knowledge. Students need to have a broad understanding of the Colonial period and a sense of the global framework that encompassed English, Spanish, and French colonization of North America. Teachers may emphasize certain themes such as religion, political and governmental development, economic institutions, relations with American Indians, or warfare.
- For the Civil War era, many students included too much material from both before and after the time period. Student essays also revealed a general misunderstanding of the government's role during the 1860s and 1870s, especially in the realm of activism and aid for various segments of the American population. Teachers need to develop a strong grasp of chronology in this period, and show students how to cite concrete, specific information and recognize the importance of insightful analysis over description in essay writing. Good students should recognize the issues of credit, tariffs, and finance, and how they affected the systems of sharecropping and tenancy after the Civil War.
- Teachers should emphasize change and continuity in United States history over time and encourage students to link events and historical trends of one period to other periods. This will help students to think about history conceptually and recognize patterns and common themes.
- While the decade of the 1950s is often taught as a period of consensus and conformity, students should be aware that there was also dissent during that period.

AP World History



Exemplary AP World History Programs

These schools lead the nation in helping the widest segment of their total school population achieve an exam grade of 3 or higher in AP World History.

Small-size school (<300 students in grades 10–12):

Pacific Collegiate School (Santa Cruz, CA)

- Head of School: Andrew Goldenkranz
- AP Teacher: Tara Firenzi

Medium-size school (300–799 students in grades 10–12):

Canyon Crest Academy (San Diego, CA)

- Head of School: David Jaffe
- AP Teacher: Mark VanOver

Large-size school (800+ students in grades 10–12):

Townsend Harris High School (Flushing, NY)

- Head of School: Thomas Cunningham
- AP Teachers: Charlene Levi, John O'Malley, Aliza Sherman
- Teachers of Foundation Courses: Chris Hackney, Adam Stonehill

School with the Largest Number of Latino Students Scoring 3+:

Coral Reef Senior High School (Miami, FL)

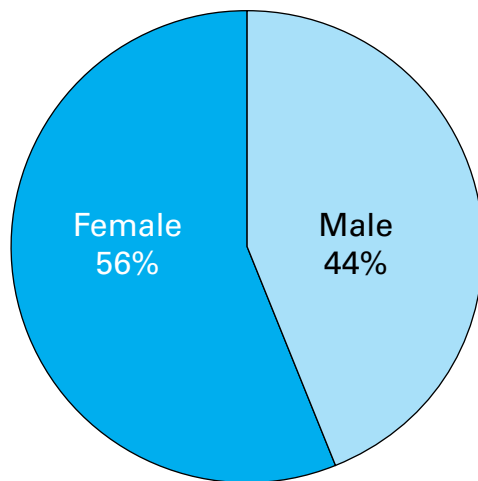
- Head of School: Adrienne Leal
- AP Teachers: Kevin Blankenship, Juan Cespedes

AP Grade Distribution, 2006

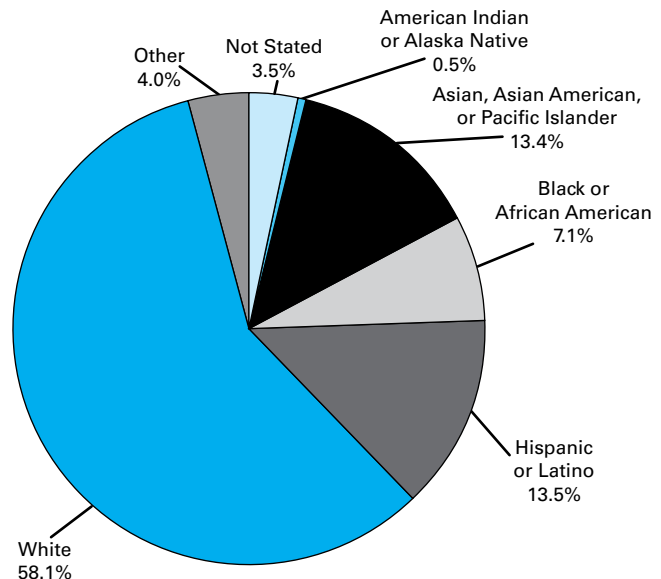
Exam Grade	Number of Examinees	%
Score of 5	8,728	10.4%
Score of 4	12,808	15.2%
Score of 3	21,354	25.4%
Score of 2	20,532	24.4%
Score of 1	20,721	24.6%
	84,143	100.0%

Number of Schools Offering This Course: 2,849

**AP World History
Examinees by Gender, 2006**



**AP World History
Examinees by Race and Ethnicity, 2006**



Feedback for Educators

The following observations on student learning in these AP courses are excerpted from the Chief Reader's commentary on student performance, which is available in its entirety as a free download from the AP Central Web site.

- Student performance suggests that overall more students understand how to construct thesis statements and analyze and group in meaningful ways relevant primary source documents. To a lesser extent, this is also true of the use of evidence. Teachers can further improve student understanding by instructing students in the meaning of point of view and its importance in historical analysis. It is clear that many of the document-based question (DBQ) essays were written by students who had advanced writing skills and extensive historical knowledge but who lacked any cognizance of point of view or its role in understanding primary sources. Students who were able to analyze point of view and explain why an additional document was needed were better equipped to write a clear and analytical essay. Student performance clearly improves when students understand the *underlying rationale* of point-of-view analysis and requests for additional documentation in relation to historical-thinking skills, and when those tasks are performed in relation to overall document analysis and not as separate tasks pegged on to the end of the essay.
- Teachers need to continue to help students learn to write thesis statements that address all parts of the question and go beyond merely restating it. In particular, a comparative question will always require similarities and differences; students should take care to address both in the thesis. Similarly, a change-over-time question must consider continuities as well as changes, and students should ensure that their essay thesis statements include both historical processes.
- Encourage students to go beyond merely stating a similarity or difference to explaining it explicitly. One way to do this might be to instruct students to always follow up a direct comparison with a clause such as: "The reason for this is. . . ." Often, the historical evidence that could be used for comparative analysis is already in the essay, but the student needs to link it together explicitly.
- Students perform at a much higher level when they use analytical categories to guide their written analysis, rather than separately describing X and Y, followed by an attempt at comparison that appears as an afterthought.
- Students need to be encouraged to include words that indicate analysis in their essays, such as *because*, *as a result*, and *therefore*. With these, a series of narrative sentences discussing things that happened in chronological order can be turned into analysis of causation indicating change over time.

Appendixes

Advanced Placement **Report to the Nation 2007**





Appendix A:

AP Data at a Glance

(More detailed data for the class of 2006 are available in Appendixes B, C, and D.)

School Participation in AP 2006

- Students representing 16,000 secondary schools took AP Exams.
 - 15,122 of these schools are located in the 50 U.S. states and the District of Columbia.
 - 12,037 are public schools, an increase of 539 over last year.
 - 3,085 are nonpublic schools, an increase of 10 over last year.
 - 878 of these schools are located outside of the United States or in U.S. territories, an increase of 71 over last year.
- These schools offer, on average, eight different AP courses from which students can choose.

The High School Class of 2006: U.S. Public Schools

(Comparison point: the high school class of 2000: U.S. public schools)

By focusing on the AP experiences acquired by the class of 2006 before they exited high school, we can assess the nation's progress in fortifying its college-bound students with a successful AP experience.

- Total high school graduates:
 - 2000: 2,550,483 students
 - 2006: 2,747,371 students
- Total high school graduates who took an AP Exam at some point in high school:
 - 2000: 405,475 (15.9 percent)
 - 2006: 666,067 (24.2 percent)
- Total high school graduates who earned a 3 or higher on an AP Exam at some point in high school:
 - 2000: 260,658 (10.2 percent)
 - 2006: 405,999 (14.8 percent)
- Total number of AP Exams taken by the class of 2006 across their entire high school years: 1,690,999
- Total number of AP Exams earning grades of 3 or higher, as taken by the class of 2006 across their entire high school years: 980,969

Which AP Exams Were Taken by the Class of 2006 During Their High School Years?

AP Exams taken by the largest numbers of students of the class of 2006 during their high school years:

1. AP U.S. History
2. AP English Literature and Composition
3. AP English Language and Composition
4. AP Calculus AB
5. AP U.S. Government and Politics
6. AP Biology
7. AP Psychology
8. AP Spanish Language
9. AP Statistics
10. AP Chemistry

AP Exam taken by the smallest number of students of the class of 2006 during their high school years:

AP French Literature

Note: AP Italian Language and Culture is not included in this ranking since it was new in 2006 and so was not available to the class of 2006 until their final year of high school.

Appendix B:

AP Exams Taken in U.S. Public Schools by the Class of 2006 During Their High School Years

AP Grade		Number of Students for Each Examination																
		Total Exams	Art History	Biology	Calculus AB	Calculus BC	Chemistry	Computer Science A	Computer Science AB	Economics Macro	Economics Micro	English Lang. & Composition	English Lit. & Composition	Environmental Science	European History	French Language	French Literature	German Language
Black or African American	5	2,733	18	241	413	192	103	13	8	56	42	143	164	24	70	111	6	11
	4	7,128	48	470	682	162	210	44	9	199	130	605	824	141	197	123	7	9
	3	15,349	103	774	947	226	389	50	14	235	149	2,343	2,825	224	667	167	13	9
	2	27,426	113	1,424	1,185	122	479	43	6	421	200	5,606	7,166	272	544	144	11	12
	1	41,920	193	2,700	3,987	304	1,622	369	25	1,156	684	4,387	5,447	1,436	789	267	29	26
	T	94,556	475	5,609	7,214	1,006	2,803	519	62	2,067	1,205	13,084	16,426	2,097	2,267	812	66	67
Mean Grade	1.96	2.13	1.95	1.94	2.82	1.82	1.63	2.50	1.83	1.88	1.97	1.97	1.59	2.21	2.59	2.24	2.51	
Asian, Asian American, or Pacific Islander	5	42,635	233	4,642	5,963	5,667	2,980	518	387	1,232	841	1,834	2,017	460	1,080	123	15	34
	4	51,122	502	3,911	5,002	2,244	2,854	598	201	2,044	1,362	3,509	5,026	976	1,692	258	33	52
	3	58,779	628	3,699	4,408	2,131	2,958	353	180	1,329	881	6,478	7,851	797	2,962	493	33	58
	2	51,033	428	3,800	3,505	676	2,350	231	112	1,529	688	7,050	7,089	734	1,346	381	27	54
	1	38,123	435	2,218	4,688	1,297	2,603	750	192	1,570	823	2,099	1,688	1,308	1,143	426	16	36
	T	241,692	2,226	18,270	23,566	12,015	13,745	2,450	1,072	7,704	4,595	20,970	23,671	4,275	8,223	1,681	124	234
Mean Grade	3.04	2.85	3.27	3.17	3.86	3.09	2.96	3.45	2.98	3.15	2.81	2.94	2.66	3.03	2.57	3.03	2.97	
Mexican or Mexican American	5	9,566	26	140	436	181	43	27	9	65	32	130	154	36	57	11	*	*
	4	14,054	113	317	707	160	106	44	8	204	102	571	737	152	194	35	*	6
	3	19,838	183	464	927	218	271	41	11	245	144	2,129	2,365	176	555	86	*	13
	2	24,723	167	997	1,047	98	346	21	7	474	164	5,497	4,900	220	484	120	5	20
	1	33,456	271	1,533	3,355	302	1,139	211	26	1,328	501	4,155	2,640	838	862	306	19	24
	T	101,637	760	3,451	6,472	959	1,905	344	61	2,316	943	12,482	10,796	1,422	2,152	558	30	64
Mean Grade	2.42	2.28	2.00	2.05	2.81	1.72	2.00	2.46	1.79	1.94	1.96	2.15	1.82	2.12	1.79	1.67	2.06	
Puerto Rican	5	909	5	48	92	44	11	7	*	7	4	37	33	9	18	*	*	*
	4	1,746	16	87	130	15	23	17	*	45	23	118	188	33	42	5	*	*
	3	2,834	20	106	139	33	70	6	*	38	36	364	471	29	140	12	*	*
	2	3,267	21	161	142	11	58	6	*	72	25	550	656	50	88	15	*	*
	1	3,135	27	167	280	22	123	44	7	131	67	195	262	155	102	17	*	*
	T	11,891	89	569	783	125	285	80	15	293	155	1,264	1,610	276	390	50	*	9
Mean Grade	2.50	2.45	2.45	2.50	3.38	2.09	2.21	2.73	2.06	2.17	2.41	2.42	1.88	2.45	2.16	*	2.78	
Other Hispanic, Latino, or Latin American	5	11,004	34	263	582	273	122	41	19	84	39	211	234	73	125	41	*	8
	4	13,565	105	429	718	180	213	50	19	254	131	718	956	204	297	68	*	12
	3	18,468	190	580	783	253	340	59	13	302	130	2,070	2,423	243	702	181	5	21
	2	20,998	208	910	822	91	376	33	18	493	170	4,020	4,023	318	470	143	8	14
	1	26,550	321	1,293	2,292	295	899	219	26	1,443	495	2,529	2,276	958	623	217	18	25
	T	90,585	858	3,475	5,197	1,092	1,950	402	95	2,576	965	9,548	9,912	1,796	2,217	650	37	80
Mean Grade	2.57	2.21	2.27	2.32	3.04	2.12	2.16	2.86	1.85	2.01	2.17	2.28	1.95	2.47	2.34	2.05	2.55	

																				Number of Students
World History	U.S. History	Studio Art: Drawing	Studio Art: 3-D Design	Studio Art: 2-D Design	Statistics	Spanish Literature	Spanish Language	Psychology	Physics C: Mechanics	Physics C: Elec. & Magnet.	Physics B	Music Theory	Latin: Vergil	Latin Literature	Italian Language	Human Geography	Government Politics U.S.	Government Politics Comp.		
83	286	33	*	19	61	5	38	287	34	21	32	48	*	5	*	33	108	17		
213	1,000	59	8	57	249	9	116	801	62	28	84	44	10	7	*	54	437	28		
553	1,852	141	27	163	472	14	332	918	91	17	218	112	14	8	*	91	1,118	73		
701	3,693	178	20	138	617	6	430	784	82	35	194	144	14	6	5	102	2,367	162		
1,320	7,514	86	6	74	1,910	22	682	2,515	165	28	884	138	23	18	*	257	2,568	288		
2,870	14,345	497	63	451	3,309	56	1,598	5,305	434	129	1,412	486	65	44	10	537	6,598	568	46,194	
1.97	1.80	2.55	2.68	2.58	1.77	2.45	2.00	2.16	2.35	2.84	1.72	2.42	2.35	2.43	2.90	2.08	1.96	1.81		
909	3,337	194	11	90	2,126	66	522	2,276	1,143	756	1,092	246	66	47	*	250	1,272	204		
1,120	6,161	289	16	162	2,926	97	913	2,703	1,065	519	1,434	172	55	34	*	279	2,684	228		
1,690	6,001	428	52	290	2,771	89	1,610	1,905	888	271	2,113	258	96	53	8	233	4,433	351		
1,336	7,152	254	38	206	1,993	37	1,322	1,195	639	354	1,118	215	48	26	11	174	4,610	305		
1,080	5,583	45	8	34	2,177	47	808	1,807	554	253	1,815	75	55	36	20	205	2,011	218		
72,014	28,234	1,210	125	782	11,993	336	5,175	9,886	4,289	2,153	7,572	966	320	196	42	1,141	15,010	1,306		
2.91	2.81	3.28	2.87	3.09	3.07	3.29	2.81	3.25	3.37	3.54	2.85	3.31	3.09	3.15	1.90	3.17	2.77	2.92		
72	221	27	10	16	55	274	7,121	165	33	16	29	13	*	*	*	27	121	14		
115	863	67	10	55	201	888	7,320	359	46	15	114	25	*	*	6	48	437	23		
370	1,395	175	33	137	373	1,578	5,916	433	78	19	218	44	5	*	9	62	1,122	39		
549	3,130	189	20	148	452	791	1,691	366	75	23	206	79	7	*	7	58	2,299	64		
1,286	6,704	53	11	29	1,121	527	1,335	961	201	27	857	64	10	6	7	158	2,462	127		
47,582	12,313	511	84	385	2,202	4,866	22,575	2,284	433	100	1,424	225	25	10	32	353	6,441	267		
1.80	1.76	2.66	2.86	2.69	1.92	2.58	3.83	2.30	2.16	2.70	1.77	2.31	2.08	1.70	2.72	2.23	1.98	2.00		
10	50	9	*	*	22	9	354	75	9	5	11	5	*	*	*	*	16	*		
42	181	10	*	9	38	21	415	140	10	8	24	11	*	*	*	7	73	6		
70	274	30	*	27	100	40	411	120	14	*	58	26	*	*	*	12	158	10		
104	450	19	5	25	83	34	199	104	15	7	42	28	*	*	*	17	257	16		
118	519	5	*	*	146	40	87	229	13	6	107	16	*	*	*	29	186	25		
344	1,474	73	11	69	389	144	1,466	668	61	30	242	86	*	8	10	68	690	58		
2.19	2.18	2.99	2.55	2.77	2.25	2.48	3.51	2.59	2.79	2.97	2.13	2.55	*	3.00	3.30	2.09	2.24	2.00		
106	382	66	14	43	104	360	7,000	358	58	35	65	23	*	*	15	49	152	17		
209	975	88	19	91	308	742	5,167	698	94	35	96	33	7	6	29	118	465	28		
435	1,354	187	33	196	475	1,112	3,821	748	100	23	286	83	7	5	41	170	1,034	63		
575	2,556	173	20	149	493	531	1,118	552	106	36	192	120	6	6	19	145	1,988	96		
936	4,337	38	5	44	1,066	846	383	1,294	173	55	663	84	10	9	12	305	2,214	147		
40,404	9,604	552	91	523	2,446	3,591	17,489	3,650	531	184	1,302	343	33	28	116	787	5,853	351		
2.10	2.01	2.95	3.19	2.89	2.14	2.79	3.99	2.53	2.54	2.78	2.01	2.39	2.61	2.50	3.14	2.32	2.04	2.07		

AP Grade	Number of Students for Each Examination																	
	Total Exams	Art History	Biology	Calculus AB	Calculus BC	Chemistry	Computer Science A	Computer Science AB	Economics Macro	Economics Micro	English Lang. & Composition	English Lit. & Composition	Environmental Science	European History	French Language	French Literature	German Language	
American Indian or Alaska Native	5	463	5	34	70	33	14	*	*	5	8	27	40	14	22	*	*	*
	4	1,119	14	67	100	29	31	8	*	32	14	114	151	26	43	5	*	*
	3	1,891	13	95	100	29	52	8	*	29	20	286	369	29	103	8	*	*
	2	2,342	11	138	115	8	51	6	*	40	12	472	481	28	61	*	*	5
	1	2,138	17	125	263	41	135	21	*	57	25	193	194	59	56	17	*	*
	T	7,953	60	459	648	140	283	46	14	163	79	1,092	1,235	156	285	36	5	14
Mean Grade	2.42	2.65	2.45	2.38	3.04	2.07	2.26	2.57	2.31	2.59	2.37	2.48	2.41	2.70	2.19	2.40	2.64	
White	5	136,847	716	10,277	21,651	10,682	5,489	1,418	799	2,941	2,137	8,469	10,221	2,125	4,717	812	85	552
	4	222,629	1,677	11,975	21,089	5,308	7,116	1,578	490	5,898	4,167	20,841	31,379	5,223	8,794	1,277	100	591
	3	293,619	2,035	13,330	19,049	5,622	9,240	1,064	423	4,485	3,095	41,523	52,568	4,333	16,663	2,220	135	762
	2	247,565	1,394	13,825	15,606	1,866	7,731	609	223	5,235	2,497	38,392	39,791	3,949	7,495	1,997	101	658
	1	145,930	1,167	6,984	20,220	3,252	8,872	1,958	482	5,047	2,723	6,874	5,980	5,722	5,259	2,113	110	400
	T	1,046,590	6,989	56,391	97,615	26,730	38,448	6,627	2,417	23,606	14,619	116,099	139,939	21,352	42,928	8,419	531	2,963
Mean Grade	2.96	2.91	3.08	3.09	3.68	2.81	2.98	3.37	2.85	3.03	2.88	3.00	2.72	3.01	2.61	2.90	3.08	
Other	5	6,282	47	547	745	488	245	47	30	140	91	403	460	99	246	84	12	36
	4	10,465	136	665	807	247	364	69	29	284	182	946	1,381	227	414	87	8	30
	3	14,333	161	685	731	247	448	50	23	219	166	1,928	2,366	217	844	183	12	29
	2	13,529	108	836	650	93	381	33	11	305	134	2,216	2,287	206	428	113	10	14
	1	10,571	118	595	1,017	212	537	154	26	369	197	754	643	357	386	153	13	11
	T	55,180	570	3,328	3,950	1,287	1,975	353	119	1,317	770	6,247	7,137	1,106	2,318	620	55	120
Mean Grade	2.79	2.80	2.92	2.90	3.55	2.70	2.50	3.22	2.64	2.79	2.68	2.82	2.55	2.87	2.74	2.93	3.55	
Not Stated	5	5,110	31	393	667	364	202	52	32	115	86	279	366	78	153	45	5	16
	4	7,846	90	417	685	202	242	53	16	240	175	634	1,064	181	286	57	6	19
	3	10,635	97	496	599	186	308	39	24	153	106	1,338	1,867	137	578	108	10	25
	2	9,806	84	548	511	62	248	22	11	190	99	1,527	1,728	147	302	93	*	14
	1	7,518	64	384	777	118	373	88	18	248	133	554	515	288	257	96	7	15
	T	40,915	366	2,238	3,239	932	1,373	254	101	946	599	4,332	5,540	831	1,576	399	28	89
Mean Grade	2.83	2.84	2.95	2.99	3.68	2.75	2.84	3.33	2.77	2.97	2.67	2.83	2.54	2.86	2.65	3.07	3.08	
National Total	5	215,549	1,115	16,585	30,619	17,924	9,209	2,126	1,290	4,645	3,280	11,533	13,689	2,918	6,488	1,230	127	660
	4	329,674	2,701	18,338	29,920	8,547	11,159	2,461	776	9,200	6,286	28,056	41,706	7,163	11,959	1,915	160	725
	3	435,746	3,430	20,229	27,683	8,945	14,076	1,670	692	7,035	4,727	58,459	73,105	6,185	23,214	3,458	213	920
	2	400,689	2,534	22,639	23,583	3,027	12,020	1,004	392	8,759	3,989	65,330	68,121	5,924	11,218	3,010	166	793
	1	309,341	2,613	15,999	36,879	5,843	16,303	3,814	806	11,349	5,648	21,740	19,645	11,121	9,477	3,612	213	542
	T	1,690,999	12,393	93,790	148,684	44,286	62,767	11,075	3,956	40,988	23,930	185,118	216,266	33,311	62,356	13,225	879	3,640
Mean Grade	2.85	2.77	2.97	2.96	3.67	2.76	2.83	3.34	2.68	2.90	2.69	2.82	2.54	2.92	2.56	2.80	3.05	

* Frequency distributions and mean grades are reported when there are 5 or more exam takers in a field.

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																			Number of Students
Government Politics Comp.	Government Politics U.S.	Human Geography	Italian Language	Latin Literature	Latin: Vergil	Music Theory	Physics B	Physics C: Elec. & Magnet.	Physics C: Mechanics	Psychology	Spanish Language	Spanish Literature	Statistics	Studio Art: 2-D Design	Studio Art: 3-D Design	Studio Art: Drawing	U.S. History	World History	
6	31	7	*	*	*	*	5	*	6	28	6	*	14	5	*	*	55	8	
9	61	9	*	*	*	5	14	*	16	79	14	*	62	10	*	15	149	30	
9	138	21	*	*	*	14	50	*	14	72	33	*	66	24	6	22	204	62	
11	206	12	*	*	6	14	28	*	14	46	42	*	62	17	*	21	348	65	
10	105	13	*	5	5	5	60	*	16	85	40	*	89	*	*	9	411	64	
45	541	62	*	12	13	41	157	18	66	310	135	7	293	59	13	69	1,167	229	3,679
2.78	2.46	2.76	*	2.00	2.00	2.68	2.21	3.11	2.73	2.74	2.29	2.29	2.49	2.95	2.69	2.71	2.22	2.36	
926	6,257	1,233	78	172	232	1,236	2,959	1,484	2,649	11,012	2,039	194	5,567	468	89	617	13,614	2,930	
1,229	14,383	1,475	75	217	247	1,294	4,669	1,125	2,811	15,731	3,581	265	10,743	1,088	157	1,095	30,432	4,509	
1,738	22,292	1,576	165	314	428	1,767	7,504	555	2,427	11,138	6,931	291	12,463	2,369	376	2,312	34,664	7,762	
1,591	21,202	1,051	196	238	308	1,438	3,658	756	1,756	6,768	5,949	121	8,795	1,659	268	1,541	42,783	6,118	
1,128	6,405	1,109	270	345	386	465	5,233	569	1,391	7,966	3,992	256	8,111	278	55	241	26,240	4,327	
6,612	70,539	6,444	784	1,286	1,601	6,200	24,023	4,489	11,034	52,615	22,492	1,127	45,679	5,862	945	5,806	147,733	25,646	411,756
2.88	2.90	3.10	2.36	2.71	2.77	3.23	2.85	3.49	3.32	3.29	2.72	3.02	2.93	2.97	2.95	3.05	2.75	2.83	
42	264	60	*	10	9	46	118	84	142	463	250	17	203	27	5	38	607	175	
56	658	56	9	15	13	45	187	66	134	689	352	36	407	53	13	76	1,467	257	
98	1,164	67	*	14	13	73	333	43	118	563	526	49	506	154	23	168	1,649	459	
93	1,318	50	11	12	14	64	208	49	117	378	423	19	426	94	19	92	1,959	358	
68	616	77	10	12	15	38	360	26	95	608	283	41	538	29	*	26	1,831	353	
357	4,020	310	36	63	64	266	1,206	268	606	2,701	1,834	162	2,080	357	63	400	7,513	1,602	21,066
2.75	2.66	2.91	2.50	2.98	2.80	2.99	2.58	3.50	3.18	3.01	2.93	2.81	2.67	2.87	2.97	3.02	2.61	2.71	
27	235	43	*	7	11	33	98	67	100	364	430	17	170	16	*	25	473	105	
47	449	38	6	7	9	52	129	51	115	476	526	42	302	31	7	38	1,012	142	
72	816	40	7	7	17	70	271	25	73	370	684	80	414	84	20	93	1,168	253	
56	922	37	*	*	11	61	131	26	74	252	372	52	258	52	11	71	1,590	237	
42	409	37	7	11	20	30	253	21	77	413	207	92	356	13	*	11	1,364	218	
244	2,831	195	26	36	68	246	882	190	439	1,875	2,219	283	1,500	196	42	238	5,607	955	17,810
2.84	2.71	3.07	2.81	2.86	2.71	2.99	2.65	3.62	3.20	3.07	3.27	2.43	2.78	2.92	2.90	2.98	2.58	2.66	
1,254	8,456	1,705	107	244	328	1,653	4,409	2,472	4,174	15,028	17,760	942	8,322	688	135	1,011	19,025	4,398	
1,654	19,647	2,084	130	290	344	1,681	6,751	1,851	4,353	21,676	18,404	2,100	15,236	1,556	231	1,737	42,240	6,637	
2,453	32,275	2,272	238	407	582	2,447	11,051	960	3,803	16,267	20,264	3,257	17,640	3,444	574	3,556	48,561	11,654	
2,394	35,169	1,646	254	299	414	2,163	5,777	1,290	2,878	10,445	11,546	1,592	13,179	2,488	404	2,538	63,661	10,043	
2,053	16,976	2,190	328	443	525	915	10,232	988	2,685	15,878	7,009	2,681	15,514	508	93	514	54,503	9,702	
9,808	112,523	9,897	1,057	1,683	2,193	8,859	38,220	7,561	17,893	79,294	74,983	10,572	69,891	8,684	1,437	9,356	227,990	42,434	666,067
2.76	2.71	2.95	2.46	2.76	2.79	3.11	2.72	3.47	3.25	3.12	3.38	2.72	2.82	2.93	2.94	3.02	2.59	2.67	

Appendix C:

Raw Numbers for Table 1: U.S. Public Schools

State	2000	2006	2000	2006	2000	2006	2000	2006	2000	2006
	# of students ¹⁰	# of students ¹⁰	# of students who took an AP Exam in high school	# of students who took an AP Exam in high school	% of students who took an AP Exam in high school	% of students who took an AP Exam in high school	# of students who scored 3+ on an AP Exam in high school	# of students who scored 3+ on an AP Exam in high school	% of students who scored 3+ on an AP Exam in high school	% of students who scored 3+ on an AP Exam in high school
Alabama	38,402	37,215	2,750	3,778	7.2%	10.2%	1,510	2,127	3.9%	5.7%
Alaska	6,671	7,478	1,028	1,499	15.4%	20.0%	677	945	10.1%	12.6%
Arizona	38,818	52,841	4,378	8,332	11.3%	15.8%	2,805	4,956	7.2%	9.4%
Arkansas	27,335	26,699	2,208	8,161	8.1%	30.6%	1,166	2,607	4.3%	9.8%
California	309,866	358,266	68,648	112,152	22.2%	31.3%	46,495	71,884	15.0%	20.1%
Colorado	38,924	43,740	7,256	12,629	18.6%	28.9%	4,762	7,809	12.2%	17.9%
Connecticut	29,610	35,578	5,665	9,488	19.1%	26.7%	4,034	6,907	13.6%	19.4%
Delaware	6,185	6,960	824	1,928	13.3%	27.7%	467	1,010	7.6%	14.5%
District of Columbia	2,695	2,418	467	815	17.3%	33.7%	179	233	6.6%	9.6%
Florida	102,479	126,386	23,288	46,036	22.7%	36.4%	13,885	24,771	13.5%	19.6%
Georgia	64,774	73,150	11,169	19,864	17.2%	27.2%	6,263	10,791	9.7%	14.8%
Hawaii	10,437	10,327	1,108	1,640	10.6%	15.9%	605	788	5.8%	7.6%
Idaho	16,163	15,978	1,559	2,562	9.6%	16.0%	1,052	1,549	6.5%	9.7%
Illinois	111,835	120,885	15,035	26,260	13.4%	21.7%	11,038	18,244	9.9%	15.1%
Indiana	59,388	58,199	7,064	10,954	11.9%	18.8%	3,553	5,354	6.0%	9.2%
Iowa	33,834	32,346	2,324	3,802	6.9%	11.8%	1,663	2,513	4.9%	7.8%
Kansas	29,102	28,964	2,026	3,532	7.0%	12.2%	1,278	2,241	4.4%	7.7%
Kentucky	36,831	35,222	3,920	6,650	10.6%	18.9%	2,027	3,324	5.5%	9.4%
Louisiana	38,317	36,433	1,214	1,858	3.2%	5.1%	711	834	1.9%	2.3%
Maine	12,229	12,903	1,809	3,048	14.8%	23.6%	1,235	1,858	10.1%	14.4%
Maryland	48,310	55,895	9,781	18,704	20.2%	33.5%	6,811	12,273	14.1%	22.0%
Massachusetts	52,950	59,303	10,399	16,406	19.6%	27.7%	7,680	11,737	14.5%	19.8%
Michigan	91,831	99,794	12,808	18,649	13.9%	18.7%	8,113	12,154	8.8%	12.2%
Minnesota	57,369	58,154	7,712	11,137	13.4%	19.2%	4,620	7,224	8.1%	12.4%
Mississippi	24,194	22,419	1,361	2,374	5.6%	10.6%	567	775	2.3%	3.5%
Missouri	52,553	54,703	2,869	5,345	5.5%	9.8%	1,937	3,445	3.7%	6.3%
Montana	10,903	10,104	1,102	1,526	10.1%	15.1%	736	1,013	6.8%	10.0%
Nebraska	19,908	18,759	986	1,752	5.0%	9.3%	632	1,095	3.2%	5.8%
Nevada	12,953	17,392	1,961	4,017	15.1%	23.1%	1,184	2,312	9.1%	13.3%
New Hampshire	11,829	13,128	1,579	2,553	13.3%	19.4%	1,089	1,779	9.2%	13.6%
New Jersey	74,420	88,941	13,357	20,865	17.9%	23.5%	9,631	14,792	12.9%	16.6%
New Mexico	18,303	17,668	2,033	3,366	11.1%	19.1%	1,125	1,590	6.1%	9.0%
New York	143,469	149,387	39,130	52,843	27.3%	35.4%	25,669	33,838	17.9%	22.7%
North Carolina	61,743	69,470	12,170	22,039	19.7%	31.7%	6,960	12,537	11.3%	18.0%
North Dakota	8,592	7,536	505	725	5.9%	9.6%	376	516	4.4%	6.8%
Ohio	108,992	110,585	12,273	18,995	11.3%	17.2%	7,704	11,637	7.1%	10.5%
Oklahoma	37,646	35,197	3,561	7,166	9.5%	20.4%	2,037	3,395	5.4%	9.6%
Oregon	30,151	31,371	3,164	5,340	10.5%	17.0%	2,129	3,276	7.1%	10.4%
Pennsylvania	113,959	122,220	14,115	20,344	12.4%	16.6%	9,429	13,608	8.3%	11.1%
Rhode Island	8,495	10,052	905	1,310	10.7%	13.0%	588	845	6.9%	8.4%
South Carolina	33,918	35,172	6,016	7,752	17.7%	22.0%	3,381	4,413	10.0%	12.5%
South Dakota	9,224	8,260	886	1,306	9.6%	15.8%	540	775	5.9%	9.4%
Tennessee	44,681	42,155	4,656	7,090	10.4%	16.8%	2,790	3,992	6.2%	9.5%
Texas	212,925	238,090	35,427	64,322	16.6%	27.0%	21,015	34,740	9.9%	14.6%
Utah	32,813	30,439	8,024	9,319	24.5%	30.6%	5,701	6,338	17.4%	20.8%
Vermont	6,468	6,477	1,076	1,606	16.6%	24.8%	744	1,055	11.5%	16.3%
Virginia	64,596	71,278	16,145	23,483	25.0%	32.9%	10,254	14,784	15.9%	20.7%
Washington	58,939	59,643	6,790	14,013	11.5%	23.5%	4,499	8,438	7.6%	14.1%
West Virginia	19,440	16,448	1,641	2,240	8.4%	13.6%	894	1,051	4.6%	6.4%
Wisconsin	58,545	59,926	8,907	13,779	15.2%	23.0%	6,172	9,470	10.5%	15.8%
Wyoming	6,469	5,417	396	713	6.1%	13.2%	246	357	3.8%	6.6%
Nation	2,550,483	2,747,371	405,475	666,067	15.9%	24.2%	260,658	405,999	10.2%	14.8%

Appendix D:

Changes in Equity Gaps from 2000 to 2006

State	Black or African American Students in Class of 2000: U.S. Public Schools			Black or African American Students in Class of 2006: U.S. Public Schools		
	% of Student Population ¹⁰	% of AP Examinees ⁹	Equity Gap Eliminated	% of Student Population ¹⁰	% of AP Examinees ⁹	Equity Gap Eliminated
Alabama	33.3%	8.9%		32.2%	14.6%	
Alaska	3.7%	1.7%		4.2%	2.7%	
Arizona	4.2%	1.8%		4.7%	2.3%	
Arkansas	21.2%	5.9%		21.1%	12.8%	
California	7.3%	3.0%		7.3%	3.6%	
Colorado	4.3%	2.6%		4.7%	2.9%	
Connecticut	10.8%	3.6%		11.3%	5.1%	
Delaware	24.9%	8.9%		26.5%	11.3%	
District of Columbia	86.6%	61.7%		82.4%	60.4%	
Florida	20.3%	8.7%		19.7%	11.0%	
Georgia	32.9%	18.2%		33.1%	20.4%	
Hawaii	1.6%	1.4%		1.6%	1.8%	✓
Idaho	0.4%	0.3%		0.5%	0.5%	✓
Illinois	14.7%	5.1%		13.6%	8.4%	
Indiana	8.6%	3.2%		8.3%	4.3%	
Iowa	2.2%	1.3%		2.6%	1.4%	
Kansas	6.1%	6.0%		6.6%	3.3%	
Kentucky	7.9%	2.2%		9.0%	4.3%	
Louisiana	38.6%	17.0%		44.0%	16.0%	
Maine	0.7%	0.3%		1.9%	0.7%	
Maryland	32.0%	11.3%		34.2%	14.3%	
Massachusetts	7.6%	2.4%		8.3%	3.5%	
Michigan	12.5%	3.8%		13.9%	4.6%	
Minnesota	2.9%	0.9%		5.2%	1.8%	
Mississippi	46.7%	19.8%		46.0%	33.1%	
Missouri	12.6%	4.4%		14.0%	6.7%	
Montana	0.2%	0.1%		0.5%	0.5%	✓
Nebraska	3.9%	1.6%		4.6%	1.7%	
Nevada	7.8%	2.4%		8.1%	4.6%	
New Hampshire	0.7%	0.3%		1.2%	0.5%	
New Jersey	14.9%	4.9%		14.8%	5.5%	
New Mexico	2.3%	1.6%		2.3%	1.9%	
New York	15.1%	6.5%		14.4%	7.0%	
North Carolina	26.8%	9.6%		27.3%	13.4%	
North Dakota	0.7%	0.2%		1.0%	0.1%	
Ohio	8.8%	4.4%		11.0%	6.4%	
Oklahoma	8.3%	4.8%		9.6%	6.2%	
Oregon	1.7%	0.6%		2.2%	1.0%	
Pennsylvania	10.3%	2.4%		11.8%	4.7%	
Rhode Island	5.5%	1.0%		8.9%	2.7%	
South Carolina	39.2%	15.8%		37.7%	15.8%	
South Dakota	0.7%	0.7%	✓	1.0%	1.2%	✓
Tennessee	18.0%	11.5%		21.0%	15.6%	
Texas	12.9%	5.0%		13.5%	6.9%	
Utah	0.5%	0.2%		0.9%	0.5%	
Vermont	0.3%	0.3%	✓	0.6%	1.0%	✓
Virginia	24.1%	8.4%		24.1%	10.2%	
Washington	3.0%	2.1%		4.5%	2.5%	
West Virginia	3.5%	2.0%		3.9%	1.7%	
Wisconsin	4.4%	1.1%		5.4%	2.2%	
Wyoming	0.4%	0.3%		2.4%	0.7%	
Nation	13.2%	6.0%		13.7%	6.9%	

State	Hispanic or Latino Students in the Class of 2000: U.S. Public Schools			Hispanic or Latino Students in the Class of 2006: U.S. Public Schools		
	% of Student Population ¹⁰	% of AP Examinees ⁹	Equity Gap Eliminated	% of Student Population ¹⁰	% of AP Examinees ⁹	Equity Gap Eliminated
Alabama	0.6%	1.2%	✓	1.3%	1.8%	✓
Alaska	2.9%	1.9%		3.1%	3.3%	✓
Arizona	25.4%	12.7%		29.9%	17.9%	
Arkansas	1.9%	1.7%		4.5%	3.5%	
California	32.5%	26.2%		36.4%	30.2%	
Colorado	13.3%	8.0%		17.1%	9.9%	
Connecticut	8.5%	5.2%		10.0%	7.2%	
Delaware	2.9%	1.0%		4.6%	3.7%	
District of Columbia	7.4%	11.8%	✓	9.7%	12.9%	✓
Florida	15.1%	19.6%	✓	20.7%	24.2%	✓
Georgia	1.7%	2.0%	✓	4.4%	4.0%	
Hawaii	4.7%	1.5%		3.7%	2.4%	
Idaho	5.8%	2.1%		7.9%	3.2%	
Illinois	9.7%	7.5%		12.3%	11.2%	
Indiana	2.1%	1.6%		3.2%	2.5%	
Iowa	1.6%	1.0%		3.2%	2.1%	
Kansas	4.1%	2.8%		7.0%	4.2%	
Kentucky	0.5%	0.9%	✓	2.5%	1.8%	
Louisiana	1.3%	3.4%	✓	1.7%	3.6%	✓
Maine	0.5%	0.6%	✓	1.0%	1.0%	✓
Maryland	3.1%	3.6%	✓	5.5%	6.0%	✓
Massachusetts	6.6%	3.0%		7.8%	5.1%	
Michigan	2.3%	1.8%		2.8%	2.3%	
Minnesota	1.5%	1.2%		2.8%	1.4%	
Mississippi	0.2%	0.9%	✓	0.8%	1.3%	✓
Missouri	1.2%	1.5%	✓	2.1%	2.2%	✓
Montana	1.2%	0.9%		2.0%	1.6%	
Nebraska	3.2%	1.4%		6.1%	3.9%	
Nevada	12.6%	7.9%		20.1%	14.6%	
New Hampshire	1.0%	0.6%		2.0%	1.5%	
New Jersey	11.6%	6.8%		14.1%	9.3%	
New Mexico	42.0%	27.4%		45.4%	37.4%	
New York	11.5%	9.7%		11.8%	11.1%	
North Carolina	1.7%	1.7%	✓	4.6%	3.7%	
North Dakota	0.8%	0.8%	✓	1.1%	1.2%	✓
Ohio	1.1%	1.3%	✓	1.5%	1.8%	✓
Oklahoma	3.3%	3.1%		6.0%	5.6%	
Oregon	5.3%	3.0%		8.9%	5.2%	
Pennsylvania	2.5%	1.4%		3.4%	2.4%	
Rhode Island	8.3%	2.7%		13.7%	4.7%	
South Carolina	1.0%	1.4%	✓	2.4%	2.3%	
South Dakota	0.7%	0.6%		1.3%	1.1%	
Tennessee	0.6%	1.4%	✓	1.3%	2.3%	✓
Texas	32.1%	27.2%		35.9%	33.7%	
Utah	4.2%	2.3%		8.0%	5.1%	
Vermont	0.4%	0.8%	✓	1.0%	0.9%	
Virginia	3.2%	3.8%	✓	6.2%	5.7%	
Washington	4.9%	2.9%		8.4%	5.7%	
West Virginia	0.4%	0.8%	✓	0.5%	1.3%	✓
Wisconsin	2.5%	1.6%		3.8%	2.6%	
Wyoming	5.5%	4.0%		5.9%	4.8%	
Nation	11.1%	10.9%		14.0%	14.0%	✓

State	American Indian or Alaska Native Students in Class of 2000: U.S. Public Schools			American Indian or Alaska Native Students in Class of 2006: U.S. Public Schools		
	% of Student Population ¹⁰	% of AP Examinees ⁹	Equity Gap Eliminated	% of Student Population ¹⁰	% of AP Examinees ⁹	Equity Gap Eliminated
Alabama	1.2%	1.0%		1.3%	0.5%	
Alaska	19.1%	3.1%		20.5%	4.4%	
Arizona	6.4%	1.5%		5.9%	2.0%	
Arkansas	0.4%	0.3%		0.6%	1.0%	✓
California	0.9%	0.6%		0.9%	0.4%	
Colorado	0.8%	0.5%		0.9%	0.7%	
Connecticut	0.3%	0.2%		0.2%	0.2%	✓
Delaware	0.2%	0.2%	✓	0.4%	0.6%	✓
District of Columbia	*	0.4%	*	*	0.1%	*
Florida	0.2%	0.3%	✓	0.3%	0.4%	✓
Georgia	0.1%	0.3%	✓	0.2%	0.3%	✓
Hawaii	0.3%	0.4%	✓	0.3%	0.4%	✓
Idaho	0.8%	0.4%		1.0%	0.6%	
Illinois	0.2%	0.2%	✓	0.3%	0.2%	
Indiana	0.1%	0.3%	✓	0.2%	0.2%	✓
Iowa	0.2%	0.2%	✓	0.6%	0.3%	
Kansas	0.9%	0.7%		1.1%	0.8%	
Kentucky	0.1%	0.3%	✓	0.4%	0.3%	
Louisiana	0.5%	0.2%		0.6%	0.4%	
Maine	0.5%	0.1%		0.5%	0.5%	✓
Maryland	0.3%	0.3%	✓	0.3%	0.3%	✓
Massachusetts	0.2%	0.3%	✓	0.3%	0.2%	
Michigan	1.0%	0.4%		0.8%	0.4%	
Minnesota	1.1%	0.3%		1.2%	0.4%	
Mississippi	0.1%	0.3%	✓	0.1%	0.1%	✓
Missouri	0.2%	0.5%	✓	0.3%	0.4%	✓
Montana	6.2%	1.3%		7.9%	1.4%	
Nebraska	0.6%	0.1%		0.8%	0.2%	
Nevada	1.4%	0.8%		1.3%	0.5%	
New Hampshire	0.2%	0.1%		0.2%	0.4%	✓
New Jersey	0.3%	0.2%		0.2%	0.2%	✓
New Mexico	10.5%	5.1%		12.2%	5.5%	
New York	0.3%	0.3%	✓	0.4%	0.3%	
North Carolina	1.2%	0.6%		1.0%	0.6%	
North Dakota	4.5%	0.6%		5.9%	0.7%	
Ohio	0.1%	0.3%	✓	0.1%	0.3%	✓
Oklahoma	15.0%	7.5%		18.6%	9.2%	
Oregon	1.5%	0.9%		1.7%	0.9%	
Pennsylvania	0.1%	0.2%	✓	0.1%	0.1%	✓
Rhode Island	0.2%	0.3%	✓	0.5%	0.0%	
South Carolina	0.2%	0.4%	✓	0.1%	0.4%	✓
South Dakota	3.5%	0.7%		4.8%	1.1%	
Tennessee	0.1%	0.4%	✓	0.1%	0.2%	✓
Texas	0.2%	0.4%	✓	0.3%	0.5%	✓
Utah	1.0%	0.3%		1.3%	0.4%	
Vermont	0.2%	0.3%	✓	0.3%	0.2%	
Virginia	0.3%	0.4%	✓	0.3%	0.4%	✓
Washington	1.6%	0.8%		1.9%	0.7%	
West Virginia	0.1%	0.3%	✓	0.2%	0.5%	✓
Wisconsin	0.9%	0.3%		1.0%	0.5%	
Wyoming	1.3%	0.8%		2.0%	0.7%	
Nation	1.1%	0.5%		1.1%	0.6%	

*Precise American Indian or Alaska Native student enrollments for the District of Columbia are not available from the Western Interstate Commission for Higher Education.

Appendix E:

Exemplary International Programs

The schools listed below have a wider segment of their student population achieving an exam grade of 3 or higher in the specified subject than any other school outside the U.S.

Exemplary AP Art History

American School in London
(London, England, United Kingdom)

- Head of School: William C. Mules
- AP Teachers: Judy Kisor, Diane Umamoto
- Teacher of Foundation Courses: Cindy Wasley

Exemplary AP Biology

Kaohsiung American School (Kaohsiung City, Taiwan)

- Head of School: Dr. Peter Nanos
- AP Teacher: Kal Valjakka

Exemplary AP Calculus AB

Saudi Aramco College Preparatory Academy
(Dhahran, Saudi Arabia)

- Head of School: Mazin Horsler
- AP Teachers: Eric Ramseur, Salah F. Mohdsalih, Mohammad H. Saleh, Ali A. Younis, Vepan Keith, Nabih A. Hassoun, Dennis F. Luy, Mahmoud A. Al-Basha, Mohammedali M. Al-Khunaizi

American International School-Dhaka (Dhaka, Bangladesh)

- Head of School: Walter Plotkin
- AP Teachers: David Bell, Terrance Orcutt

Exemplary AP Calculus BC

Korean Minjok Leadership Academy
(Hoengseong, Gangwon-do, South Korea)

- Head of School: Donhee Lee
- AP Teacher: Kim Jung Soo

Exemplary AP Chemistry

Saudi Aramco College Preparatory Academy (Dhahran, Saudi Arabia)

- Head of School: Mazin Horsler
- AP Teachers: Dr. Maurice J. Coogan, Mohammad H. Fawwaz, Bassam W. El-Kadi, Dr. Mohammed T. Saeed, Dr. Erfan M. Abu Irhayem

Korean Minjok Leadership Academy (Hoengseong, Gangwon-do, South Korea)

- Head of School: Donhee Lee
- AP Teachers: Hyeon-Soo Ryu, Yangsuk Lee, Joo Moon Lee

Exemplary AP Computer Science A and AB

Bayview Glen School (Toronto, Ontario, Canada)

- Head of School: Eileen Daunt
- AP Teacher: Kevin DesLauriers

Exemplary AP English Language and Composition

Saint Clement's School (Toronto, Ontario, Canada)

- Head of School: Patricia D. Parisi
- AP Teachers: Joanne Thompson, Patricia Westerhof
- Teachers of Foundation Courses: Ruth Griffiths, Claire Pacaud, Julia Scott

Exemplary AP English Literature and Composition

Saint Clement's School (Toronto, Ontario, Canada)

- Head of School: Patricia D. Parisi
- AP Teachers: Joanne Thompson, Ruth Griffiths
- Teachers of Foundation Courses: Patricia Westerhof, Claire Pacaud, Julia Scott

Exemplary AP Environmental Science

The Riverside School (Zug, Switzerland)

- Head of School: Dominic Currer
- AP Teacher: Andrew Ganderton
- Teachers of Foundation Courses: Barbara Lennon, Francois Lordet

Exemplary AP European History

Colegio Internacional de Carabobo (Valencia, Venezuela)

- Head of School: Joe Houston Walker
- AP Teacher: Jenny Ostermiller
- Teacher of Foundation Courses: Scott Liebertz

Exemplary AP French Language

School Year Abroad Program, France (Rennes, France)

- Head of School: Donald Austin
- AP Teachers: Jacqueline Lebreton, Gilles Raguin, Michelle Emmanuelli, Donald Austin

Rain Forest International School (Yaoundé, Cameroon)

- Head of School: Vincent Griffis
- AP Teacher: Elisee Bertin Mendo

Exemplary AP French Literature

School Year Abroad Program, France (Rennes, France)

- Head of School: Donald Austin
- AP Teachers: Marie Cecile Heurtin, Xavier Bazin

George Washington Academy (Casablanca, Morocco)

- Head of School: Andrew Dias
- AP Teacher: Aicha Hariri
- Teachers of Foundation Courses: Khadija Houbi, Celine Sebti

Exemplary AP German Language

ISF Internationale Schule Frankfurt-Rhein-Main (Frankfurt, Germany)

- Head of School: Angus Slesser
- AP Teacher: Britta Ganze
- Teachers of Foundation Courses: Ulrike Schaum, Sonja Habben

Exemplary AP Government and Politics: Comparative

American School of Durango (Durango, Mexico)

- Head of School: Glen E. Adair
- AP Teachers: Richard Martin, Martha Gracia
- Teachers of Foundation Courses: Katie Horan, Juan Barron

Exemplary AP Government and Politics: United States

Balboa Academy (Panama City, Panama)

- Head of School: Jean Lamb
- AP Teacher: Ivonne Machado
- Teacher of Foundation Courses: Erinn Magee

Exemplary AP Human Geography

American International School-Dhaka (Dhaka, Bangladesh)

- Head of School: Walter Plotkin
- AP Teacher: Jocelyn Popinchalk

Exemplary AP Italian Language and Culture

School Year Abroad Program, Italy (Viterbo, Italy)

- Head of School: Patrick Scanlon
- AP Teachers: Alessandra Tuzi, Katia Delle Monache

American Overseas School in Rome (Rome, Italy)

- Head of School: Beth Pfannl
- AP Teacher: Maria Gabriella Gangi
- Teachers of Foundation Courses: Carmela Brancato, Anna Cioli, Eliana Scrimitore

Exemplary AP Macroeconomics

Korean Minjok Leadership Academy (Hoengseong, Gangwon-do, South Korea)

- Head of School: Donhee Lee
- AP Teachers: Byung Yull Nah, Yong-Heuy Han

Exemplary AP Microeconomics

Korean Minjok Leadership Academy (Hoengseong, Gangwon-do, South Korea)

- Head of School: Donhee Lee
- AP Teachers: Byung Yull Nah, Yong-Heuy Han

Exemplary AP Music Theory

Yongsan International School of Seoul (Seoul, South Korea)

- Head of School: Jeff Pinnow
- AP Teacher: Crystal Hardin
- Teacher of Foundation Courses: Diane Thomas

Exemplary AP Physics B

Korean Minjok Leadership Academy (Hoengseong, Gangwon-do, South Korea)

- Head of School: Donhee Lee
- AP Teachers: Jeong Dong Seong, Yonsoo Kim, Hyong-Jong Park

Exemplary AP Physics C: Electricity and Magnetism

Saudi Aramco College Preparatory Academy (Dhahran, Saudi Arabia)

- Head of School: Mazin Horsler
- AP Teachers: Vepan Keith, Ahmad M. Zuaiter, Mahmoud A. Al-Basha

ISF Internationale Schule Frankfurt-Rhein-Main (Frankfurt, Germany)

- Head of School: Angus Slesser
- AP Teacher: Elyar Sedeghati

Exemplary AP Physics C: Mechanics

Saudi Aramco College Preparatory Academy
(Dhahran, Saudi Arabia)

- Head of School: Mazin Horsler
- AP Teachers: Mahmoud A. Al-Basha, Vepan Keith, Ahmad Zuaiteer

Korean Minjok Leadership Academy
(Hoengseong, Gangwon-do, South Korea)

- Head of School: Donhee Lee
- AP Teachers: Jeon Dong Seong, Yonsoo Kim

Exemplary AP Psychology

Colegio Maya–The American International School of
Guatemala (Santa Catarina Pinula, Guatemala)

- Head of School: Dr. Sherry Miller
- AP Teacher: Katia Kayayan de Morales
- Teacher of Foundation Courses: Katia Kayayan de Morales

Exemplary AP Spanish Language

Uruguayan American School (Montevideo, Uruguay)

- Head of School: Thomas E. Oden
- AP Teacher: Sylvia Caballero
- Teachers of Foundation Courses: Pilar Corral, Andrea Fraigola

Exemplary AP Spanish Literature

Uruguayan American School (Montevideo, Uruguay)

- Head of School: Thomas E. Oden
- AP Teacher: Sylvia Caballero
- Teachers of Foundation Courses: Pilar Corral, Andrea Fraigola

Exemplary AP Statistics

Korean Minjok Leadership Academy
(Hoengseong, Gangwon-do, South Korea)

- Head of School: Donhee Lee
- AP Teacher: Chun Hyun Ku

Exemplary AP Studio Art

International Christian School (Kowloon City, Hong Kong
S.A.R., China)

- Head of School: William E. Tackett
- AP Teacher: Chris Meyer
- Teacher of Foundation Courses: Anna Goh

Exemplary AP United States History

Seoul International School (Seoul, South Korea)

- Head of School: Gary Conley
- AP Teacher: Paul Chaffee
- Teacher of Foundation Courses: Christy Willis

Exemplary AP World History

International School of Islamabad (Islamabad, Pakistan)

- Head of School: Rose Puffer
- AP Teacher: Martin Lauer

Notes

1. Faculty from colleges and universities nationwide participate in the development of the AP courses, exams, and scoring standards. These faculty are full-time faculty from dozens of institutions, including Dartmouth College, Harvard University, Princeton University, Spelman College, Stanford University, the University of Texas at Austin, the University of Virginia, the University of Washington, and Yale University. For a complete listing of these faculty and their affiliations, visit the AP Press Room at www.collegeboard.com/appress.
2. Kati Haycock, "Closing the Achievement Gap," *Educational Leadership* (2001), Association for Supervision and Curriculum Development.
3. "Preparing Students for Success in College," *Policy Matters* (2005), American Association of State Colleges and Universities.
4. Saul Geiser and Veronica Santelices, "The Role of Advanced Placement and Honors Courses in College Admissions" (2004), Center for Studies in Higher Education, University of California at Berkeley.
5. Chrys Dougherty, Lynn Mellor, and Shuling Jian, "The Relationship between Advanced Placement and College Graduation" (2005), National Center for Educational Accountability.
6. Eugenio J. Gonzalez, Kathleen M. O'Connor, and Julie A. Miles, "How Well Do Advanced Placement Students Perform on the TIMSS Advanced Mathematics and Physics Tests?" (2001), The International Study Center, Boston College.
7. Throughout this *Report*, success on AP Exams is defined as a score of 3 or higher. See page 2 for more information about why this score is used to denote success.
8. This percentage was calculated as follows: the numerator includes each public school student in the graduating class of 2006 who earned an AP Exam grade of 3 or higher on an AP Exam at any point in their high school years; if a student earned more than one AP Exam grade of 3 or higher, she or he was still only counted once. The denominator is simply the overall number of public school students graduating from high school in 2006, as projected in *Knocking at the College Door* (2003), Western Interstate Commission for Higher Education.
9. These examinees include all public school students in the class of 2006 who took an AP Exam at any point in high school. Because some AP Exam takers identify themselves as an "other" ethnicity or decline to provide ethnicity, the "AP Exam Population" in this figure only represents 94.2 percent of the AP population.
10. *Knocking at the College Door* (2003), Western Interstate Commission for Higher Education.
11. This page contains data for both AP Computer Science Exams—AP Computer Science A and AP Computer Science AB. Charts showing examinees by grade level, race/ethnicity, and gender include demographic data from both AP Computer Science Exams, so some populations may be slightly inflated when individual students in those populations took both exams in 2006.
12. This page contains data for both AP Latin Exams—AP Latin Literature and AP Latin: Vergil. Charts showing examinees by grade level, race/ethnicity, and gender include demographic data from both AP Latin Exams, so some populations may be slightly inflated when individual students in those populations took both exams in 2006.
13. This page contains data for all three AP Studio Art portfolio assessments: Drawing, 2-D Design, and 3-D Design. Charts showing examinees by grade level, race/ethnicity, and gender include demographic data from all portfolios combined, so some populations may be slightly inflated when individuals in those populations submitted more than one type of portfolio in 2006.



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