Association of Christian Schools International v. Stearns, et al.

Expert Report of Michael Kirst

I. INTRODUCTION AND SUMMARY

Counsel for the defendants in this litigation have requested that I provide my opinions on the following issues:

1. What students must know and be able to do to be adequately prepared for undergraduate study at institutions like the University of California.

2. The ability to predict success in highly selective colleges based upon the results of standardized tests and college readiness assessments.

3. The reasonableness of UC's A-G requirements and course review process.

This report outlines my opinions and the bases for them. In brief, my opinions are as follows:

1. Studies have found that the most important college preparation is the acquisition of sufficient content and critical thinking skills in high school courses. Taking courses with the "right" titles is not necessarily sufficient, as high school and college standards differ.

2. Standardized tests designed to measure academic achievement in high school have limitations in predicting success in highly selective colleges. High school GPA has been shown to have higher predictive validity than college entrance exam scores at UC. Plaintiffs' analysis of Stanford 10 test results is particularly problematic because the Stanford 10 is not designed as a college entrance examination. This is confirmed by (among other things) the fact that, as a group, ACSI students do not perform as well as similar students at UC.

3. UC's A-G requirements and course review process are a reasonable and effective means of promoting readiness for the UC course of study.

II. QUALIFICATIONS[1]

I have been a Professor of Education at Stanford University since 1969. I am a former federal official, including Director of Program Planning and Evaluation for the Bureau of Elementary/Secondary Education in the U.S. Office of Education. I am a former member and President of the California State Board of Education that is responsible for textbook and testing adoptions statewide. I am a member of the National Academy of Education, and the International Academy of Education.

[1] My curriculum vitae can be found at Attachment 8.

In the last decade, I have focused upon the transition from secondary education to college, including college preparation, success, completion, placement, course standards, and testing alignment. My recent book, *From High School to College* summarizes my initial work, and includes a case study of U.C. I have written over twenty published articles on these college transition topics.

I was the Principal Investigator for Stanford's "Bridge Project" (see http://bridgeproject.stanford.edu) and worked with the University of Oregon to produce "College Standards for Success" (www.s4s.org). Both of these research projects are targeted on the knowledge and skills students must attain in their high school courses for success in college.

III. OPINIONS

A. What Students Must Know And Be Able To Do To Be Adequately Prepared For Undergraduate Study At Institutions Like The University Of California.

1. The Importance Of Course Content And Development Of Critical Thinking In Preparation For College.

Studies have found that what content is embedded within high school courses is a crucial variable in predicting whether students will succeed at very selective post-secondary institutions such as the University of California. (Adelman, 2006). For example, studies by the U.S. Department of Education examined the college transcripts and college completion rates for high school students who graduated from high school in 1992. These students were followed through December 2000. This unique study found that taking the right high school courses (such as A-G courses) that contain content and skills aligned with college courses leads to higher college completion regardless of parental income, parental education level, student race/ethnicity, or any other socio-economic background variable of a student. (Adelman 2006).

This is not surprising. Not only must students know the prerequisite content to keep up in a college class, but they must possess the ability to do something with specific content knowledge in subjects like biology. This includes solving a problem, reaching a conclusion, or presenting a point of view in class. This interaction of content knowledge and content skills is at the center of what UC and similar schools seek to develop in their students. Students who lack vital content in their courses cannot keep up in class. (Conley, 2005). They also tend to have lower college course grades, take longer to complete degrees, and drop out more frequently. (UC Office of President, 2007).

Many students begin their university or college experience by failing a placement exam and ending up in remediation. Remediation rates nationally are estimated between 20% and 30% at four year colleges/universities. (U.S. Dept. of Education, 2004; ACT, 2005). But remediation is not an adequate substitute for high school preparation. First, it

costs the university money to provide "developmental" non-credit courses. At least as importantly, remediation is a risk factor that lowers probability of student completion. Specifically, students who begin college by taking remedial courses are less than half as likely to graduate within six years as their colleagues who do not. (Conley, 2005).

2. Taking Courses With The "Right" Titles Is Not Necessarily Sufficient, As High School And College Standards Differ.

Many studies have found that students who may appear prepared for college based on high school course grades and admissions tests are not prepared to succeed in their entry level courses. (ACT, 2005: Crisis at the Core). The ACT College Readiness Benchmarks represent the level of achievement required for students to have a high probability of success (a 75% chance of earning a course grade of C or better) in specific credit-bearing college courses as English composition, algebra, biology, etc. Only 26% of ACT-tested high school graduates met ACT's College Readiness Benchmark demonstrating their readiness for their first credit bearing college course in biology. (ACT, Crisis At the Core, 2005, p. 3).

Because the college prep curriculum has traditionally been defined in terms of course titles, alignment between high school and college content standards has been assumed to exist if titles are properly sequenced. But taking a high school course titled "English" or "Algebra II" or "Biology" and getting an A or B grade will not be enough for a student to succeed in college if key content and skill development are not presented to or mastered by the student. Many students who get high grades in English cannot write well or read complex and technical material in courses like biology or government at selective four year colleges. (Conley, 2005).

The National Assessment of Education Progress released the grade 12 results in February 2007. The results in reading demonstrate a decline between 1992 and 2005. This is surprising because the number of students who took 4 years of English is up from 40% in 1990 to 68% in 2005. Moreover, the average grade in English also has increased. But high school English classes often focus on lower level reading skills rather than advanced reading techniques. Further, considerable research stresses there is a difference between English literature courses in high school and technical reading in college courses like biology and economics. There is an urgent need to teach reading skills across the high school curriculum, and not just in English classes.

A 2007 study released by ACT, the largest college admissions testing company, specified mismatches between high school course content and what college teachers want students to know.

> This national survey of 35,665 educators tells us what postsecondary institutions believe is important and necessary for their entering students to know and what middle and high school teachers are teaching. It focuses, therefore, on identifying the gap between postsecondary expectations and high school practice.

High school teachers in all content areas (English/writing, reading, mathematics and science) tended to rate far more content and skills as "important" or "very important" than did their postsecondary or remedial counterparts.

It may be that the extensive demands of state standards are forcing high school teachers to treat all content topics as important, sacrificing depth for breadth.

English/Writing:
Postsecondary instructors ranked mechanics more frequently among the most important groups of skills for success in an entry level, credit-bearing postsecondary English/writing course, while high school teachers' rankings of these strands were generally lower.

Mathematics:
High school mathematics teachers gave more advanced topics greater importance than did their postsecondary counterparts. In contrast, postsecondary and remedial-course mathematics instructors rated a rigorous understanding of fundamental underlying mathematics skills and processes as being more important than exposure to more advanced mathematics topics.

Science:
High school science teachers consistently rated science content as more important to student success than science process/inquiry skills. These responses are in direct contrast to those of middle school and postsecondary science teachers, who consistently rated science process skills higher in importance than science content.

(Aligning Postsecondary Expectations and High School Practice: The Gap Defined – Policy Implications of the ACT National Curriculum Survey® Results 2005-2006, Iowa City: ACT, 2007).

I was Principal Investigator for Stanford University's Bridge Project, a six-year national study that sought to analyze high school exit-level policies and college entrance policies to learn if they had different standards—if they were asking students to know and do different concepts and skills between graduating from high school and entering college. Researchers wanted to understand what students, parents, and K-12 educators know about college academic standards and course placement policies, and if they had the resources they need to make informed decisions. Bridge Project researchers analyzed state and institutional policies in regions in six states—California, Georgia, Illinois, Maryland, Oregon and Texas. Researchers surveyed nearly 2,000 students and parents from 23 schools about students' post-high school aspirations and their knowledge of issues related to student preparation for college, including tuition, admission criteria, and placement criteria. Researchers gathered information on state-level high school graduation and college entrance policies, and on placement policies, admissions requirements, and outreach and communication strategies from 18 selective and less-selective colleges and universities. Researchers also interviewed high school

administrators, counselors, and teachers about high school coursework and college counseling for students.

Based on the field research and a comprehensive review of the literature, the Bridge Project's larger policy report outlines major disconnects between K-12 and postsecondary education (in governance, assessment, curriculum development, data collection, data usage, and accountability), and provides information regarding what students, parents, and educators know about college preparation, admission, and placement policies and practices. (Kirst and Venezia, 2004). We found colleges and universities often send weak and unclear signals to high school students, teachers, and parents about the knowledge and skills to succeed at postsecondary education. UC's use of A-G helps overcome these inadequate signals, and provides significant advantages. Before analyzing A-G, it is useful to review the issues the Bridge Project revealed.

The Bridge Project found that the content and skills in high school courses were not designed or sequenced to align with the content and skills contained within college courses. High school teachers do not communicate with their subject matter colleagues (e.g., Biology teachers) in college about course content alignment. This sends inadequate signals to high school students. UC requirements for A-G help overcome this secondary school and university disjuncture, but will succeed best if the course sequence content is aligned with UC in specific high school subject matter departments such as science and English.

A key issue is whether K-12 subject matter preparation and postsecondary entrance-level signals and incentives are delivered to students in isolation from one another, or through interaction and reinforcement by each level of education (K-12 and UC). Three possible scenarios for signal delivery to secondary school pupils are: postsecondary education drives policy with respect to content skills and standards in high school courses (Option A); K-12 drives policy with respect to high school courses, (Option B); and combined efforts of K-12 and postsecondary education drive policy (Option C). The preferred delivery is Option C, and as described later in the report, this is the approach UC uses in its A-G course approval process, by setting forth what is expected from students in specific high school subject areas through an open and iterative communication process.

Stanford's Bridge Project and other research document major differences among students in the amount, clarity, and depth of signals they receive about what they must know and be able to do to succeed in college. (Kirst and Venezia, 2004). Findings include:

- *Student knowledge of curricular requirements is sporadic and vague.* Students do appear to have considerable partial knowledge of curricular requirements; slightly more than one-half of the students knew three or more course requirements, but there are crucial gaps in many high school students' course content that makes them less prepared for universities like UC. (Kirst and Venezia, 2004).

- *Teachers play a major role in helping students prepare for college, yet they do not have the resources they need to give students accurate information.* Teachers often took a greater role in helping students prepare for college than did counselors, but teachers lack connections and knowledge of academic standards at universities and up-to-date admission and placement information.

- *Students are generally unaware of the content of postsecondary course placement exams.* Across all the studied states, less than one-half of the sampled students knew about specific placement testing policies for the institutions in the study. For example, UC requires a majority of its entering students to take a Subject A English Language Arts placement exam.

To help close the gap between high school and college expectations regarding college preparation, six campuses within the UC system participated in a national project entitled "Standards for Success" (S4S). S4S demonstrates that critical thinking and study skills are essential for success at UC. I was the major subcontractor for this study conducted by the University of Oregon's Center for Educational Policy Research. The study took two years in which over 400 faculty and staff from 20 research universities participated. UC played a major role in S4S, and hosted the California statewide meeting in Berkeley. The major question each professor in each disciplinary area was asked concerned what students must know and do to succeed in entry level undergraduate courses. National academic content standards were used for comparison (e.g. Science for All Americans by the American Association for the Advancement of Science), but it grew clear that those standards differed from the training that colleges expected students to have. Attachment 3 contains S4S Science and Society standards and Attachment 4 contains S4S Biology standards.

In sum, taking high school courses with the "right" titles does not ensure adequate preparation for very selective universities like UC, as the college preparation standards often differ between high schools and colleges.

B. Standardized Tests Have Limitations In Predicting Success In Highly Selective Colleges.

On page 4 of his report, Professor Donald Erickson states that standardized tests are the best predictor of college success. I do not concur.

There are inherent problems with any test, as a recent report by the National Research Council (Lessons Learned About Testing) enumerates. For instance, there is measurement error related to the fact that the questions on a test are only a sample of all the knowledge and skills in the subject being tested – there will always be students who would have scored higher if a particular test version had included a different sample of questions that happened to hit on topics they knew well. Other examples of factors that contribute to measurement error are students' lucky guesses, physical condition or state of mind, motivation, and distractions during testing, as well as scoring errors. Therefore, a test score is not the best reflection of student achievement or learning.

Using student transcripts over several years, UC studies of Grade Point Average at UC (UCGPA) find that high school Grade Point Average (HSGPA) is a better predictor than college admissions tests used by UC (SAT I and SAT II). The Geiser with Studley work (2002), published in the peer-reviewed journal *Educational Assessment*, focuses on the relative predictive validity of the SAT I and SAT II examinations at UC for the years 1996-1999. The Geiser and Studley methodology was also used to analyze data for 2000-2002 that have become available since the original study was conducted. (Geiser and Studley, 2004). In the initial study, the authors found that the SAT II tends to be a better predictor of first-year UC GPA than does the SAT I. Although the evidence for 1996-1999 was mixed, the research also demonstrated that HSGPA tends to perform better than SAT I and SAT II scores at predicting UC GPA. The research regarding the 1996-1999 years did not address the issue of the relative predictive validity of HSGPA versus *the combination* of SAT I and SAT II when both are used simultaneously to predict UC GPA. For 2000-2002, HSGPA is an unambiguously better predictor of first-year UC GPA than is the SAT I or the SAT II. Furthermore, the updated analysis directly compares the predictive power of HSGPA with that of a combination of SAT I and SAT II scores, and finds that HSGPA is a better predictor.

Likewise, a research report published by the College Board (Burton and Ramist, 2001) reviews more than a dozen predictive validity studies that were conducted on different data sets by various authors. In most of the studies, the high school record was a better predictor of college success than the SAT I.

The focus on Stanford 10 test scores by plaintiffs' expert Derek Keenan is particularly problematic. The Stanford 10 test is simply not geared to college preparation. Stanford 10 is a nationally normed achievement text devised by a commercial company, Harcourt Brace. An earlier version of this test (Stanford 9) was used by California as a statewide assessment for grades 2-11. The state dropped Stanford 9 and adopted its own test for grades 2-11 called the California Standards Test. Extensive analysis of the Stanford test demonstrated that it is not aligned with California public high school courses, college admissions, or placement tests. (Le. V and Hamilton, 2002; Education Trust, 1999). Therefore, even if college admissions tests (like the SAT I and the SAT II) can be used to some extent to gauge whether students are prepared for college, the Stanford 10 test cannot. As discussed further below, testing standards promulgated by the National Research Council and the American Educational Research Association stress that it is not appropriate to use a test designed for one purpose (high school basic skills) for another purpose (college admission).

Harcourt Brace has 10 versions of a similar test because of the need to renorm the test, and change some questions as schools become familiar with the precise questions in a prior version. These new test items do not change the fundamental nature of the test. Redoing the norms means making sure the items spread a national sample of students into a bell shaped curve. As such, the Stanford 9 is fundamentally the same as the Stanford 10, for purposes of this analysis.

The invalidity of Dr. Keenan's opinions based upon his Stanford 10 analysis is further confirmed by the showing in UC's analysis that, as a group, ACSI students do not

perform as well as similar students at UC. The UC analysis is summarized in Section D below.

Although standardized tests are not as successful in predicting college performance as high school GPAs, the SAT II has been found to be the most successful. SAT II is based upon end-of-course tests such as Algebra II and U.S. History, while Stanford 10 is a general skills test not linked to a specific high school course. UC has in depth statistical studies of the predictive validity of SAT II and performance in many entry level university courses. Indeed, this predictive validity has lead UC to weigh SAT II results twice as much as SAT I results in making admissions decisions.

Testing professionals advise that when making high-stakes decisions it is important to use multiple indicators of a person's competency, which enhances the overall validity (or defensibility) of the decisions based on the measurements. It also affords the test taker different modes of demonstrating performance. *High Stakes* (1999) concludes that tests should be used for important decisions about individual students only after ensuring relevant high school classes have actually taught the material on which students will be tested. By contrast, a single, inexact measure should not be used to make very important decisions about an individual. UC's admissions process, which uses testing in combination with HSGPA in approved A-G courses, is a much more appropriate way to use standardized testing in undergraduate admissions than the methodology apparently contemplated by plaintiffs' experts.

C. The University Of California's A-G Requirements And Course Review Process Are A Reasonable Means Of Promoting Readiness For The UC Course Of Study.

In light of the disconnect between high school and college expectations for college preparatory curricula, universities must set their own standards and engage in dialogue with high schools about those standards. As the most selective public system in the United States,[2] UC has pioneered a reasonable and effective admissions process to serve this function.

The A-G requirements set forth the subject matter requirements for applicants seeking admission through Eligibility in the Statewide Context. (See Attachment 6, the 2007 A-G Guide, for detail and guidance on the requirements themselves.) A-G does not constrain how a course is taught or prescribe specific pedagogy, but it does focus on specific requirements outlined in Attachment 6.

The A-G course approval process has improved dramatically over the past six years. (Edsource, 2007). Comments from high schools and concerns about the A-G review process led the UC Office of the President to make major changes. There is now a team of reviewers headed by an articulation coordinator and including a number of part-

[2] Professor Erickson ignores this UC selectivity issue in his contention that no other state uses A-G.

time participants from other UC departments, such as admissions. High schools agree that the development of a team is a major improvement.

In addition to the A-G Guide itself (which contains the A-G requirements, as well as guiding notes), UC provides online checklists that indicate to secondary schools general criteria for evaluating A-G proposed courses. UC provides additional guidance in a statement of course content expectations for English and Language Arts, with critical thinking and other skills expectations that apply across disciplines. See Attachment 2, Statement of Competencies. Moreover, UC posts specific examples of courses that have been approved. See, e.g., Attachment 5. Assuming a school provides the necessary course information, the reasons a course could be rejected include:

- Insufficient academic/theoretical content;
- Focus is too narrow/too specialized;
- Attempt to address too many topics/lack of depth;
- Too much focus on career-related skills (application), rather than academics (concepts/theory);
- Too much focus on technology tools, rather than content knowledge; and/or
- A lack of prerequisites.[3]

Individual reviewers review the submissions, bringing any questionable submissions on which they have questions to faculty for guidance and discussion. UC asks principals for their high school's course list every year and the vast majority of high schools throughout California comply with that request every year. UC staff may engage in conversation with submitting high schools during the review process for particular courses, or after a rejection the schools may contact UC for more information on how to revise their courses for resubmission. This process often involves multiple communications between UC staff and high schools, both working towards the creation of a course that will sufficiently prepare students for the rigor of a UC education.

Professor Erickson opines that the course review progress for A-G is not effective because UC cannot monitor what secondary school teachers actually do in their classrooms. But A-G is a substantial influence on course design and content coverage. Attachment 5 includes several courses that are examples of what secondary school teachers do to construct an A-G course. It is unreasonable to assume that all this hard work in designing a course has little or no influence on what teachers do in the classroom. Similarly, the possibility that a teacher could evade the A-G course

[3] Visual and Performing arts criteria are different than the other six subject areas. See http://www.ucop.edu/A-GGuide/ag/course_submissions/eval_checklist.html for the checklists.

requirements by failing to follow the syllabus that her school submitted for A-G approval does not negate the value of the A-G process. For example, ACSI's own accreditation manual specifies that "course outlines need to be written for every subject." The directions for these outlines are very specific including: instructional objectives, bible truths, instructional methods , materials and resources used to achieve objectives, and evaluation techniques. See Formatting Curricular Documents, A 1448, at Attachment 9. The ACSI curriculum documents are broad in scope and encompass scope and sequence of content. They are not dissimilar from the A-G course specifications from California public high schools presented in Attachment 5.

Moreover, given the strong correlation between high school course content and college success, it is reasonable for UC to make the careful effort to review courses in the manner that it does. The open and iterative communication between UC and high schools throughout the course review process, combined with the A-G Guide, posted examples of approved courses, and ultimate approvals or disapprovals of courses ensure that high schools know what UC expects. UC's course review does much to bridge the gap between high school and college, and is reasonably geared toward ensuring that those who are admitted to UC are appropriately prepared for the UC course of study.

In 2007, I reviewed UC disapproval of some A-G courses in career and technical education (CTE). Some CTE courses are approved but overwhelmingly as electives, and not for core subjects like science and math. CTE high school educators have asserted that A-G approval is often too strict and not flexible enough to accommodate courses with vocational purposes that deserve A-G approval. I examined some of the CTE courses that were turned down for A-G in the sciences. In each case I concurred that these CTE courses lacked the scientific content to merit approval using the UC criteria for A-G approval.

The reasonableness of the A-G process is bolstered by the fact that UC has one of the highest retention rates of any university in the country. See Attachment 7. Because most UC students completed approved A-G course work prior to arriving at the University and, as described above, researchers have shown that high school course content is a large driver of college success, I believe that UC's extremely high retention rate shows, in part, that A-G is working.

Finally, and importantly, UC's admissions process is unique in that students who are found to be eligible based, in part, on their grades in A-G courses are automatically guaranteed a place at one of UC's campuses. This greatly increases the need for UC to review the course content and skills acquisition taught at the high schools that send UC the vast majority of its students. As such, the A-G process is needed and reasonable.

In sum, I conclude that the A-G process sends clear and influential signals to secondary school teachers and administrators about the content and skills needed for preparation and success at the nation's most selective public university system. It is a reasonable and effective way to bridge the gap between high school and college.

D. As A Group, ACSI Students Do Not Perform As Well As Similar Students At UC.

The opinion of plaintiffs' experts that ACSI students are better prepared for UC than other students is significantly flawed for several reasons. First, plaintiffs' expert Dr. Keenan compares test results of ACSI students to those of all students nationwide – rather than limiting the comparison to college bound high school students; Dr. Keenan similarly does not control for various factors that we know affect scores, and uses a test – the Stanford 10 – which, as noted above, is simply not aligned with college preparation standards. Second, UC's data indicates that ACSI students do not perform as well as similar students on the relevant college preparatory test, the SAT II. Finally, ACSI students do not perform as well as similar students once they get to UC.

1. The Misplaced Reliance On Stanford 10 Results.

Plaintiffs' Stanford 10 test analysis is faulty in that it compares apples to oranges. Specifically, plaintiffs' expert uses a comparison of ACSI students to all high school students, not just to those who are college-bound. This is a significant error, given the multitudes of students who are not preparing for college at all. Additionally, the test scores that plaintiffs' expert uses are not controlled for parental income, race, parental education, or other factors that have been proven to affect educational outcomes.

The reliance on the Stanford 10 test results is also problematic because, as noted above, the Stanford 10 is not a college entrance examination and is not aligned with college standards.

Plaintiffs' experts introduce a number of tests to suggest that ACSI schools have high achievement. None of the tests they mention are aligned with the UC admissions or placement assessments, like the SAT II is. There is a recognized methodology for analyzing test or assessment alignment with academic standards, course specifications, and test blueprints. I use this method listed below to support my statements about the assertions regarding the relevance of the tests, such as Stanford 10 and the Coleman and Hoffer, 1987 in Plaintiffs' experts' reports. Based upon the methodology listed below, the tests in the expert reports of Dr. Keenan and Professor Erickson are not aligned with UC admissions or placement assessments, nor were they designed to cover the content and skills enumerated in the UC process for A-G included in the appendices of this report. As noted, testing standards promulgated by the National Research Council and the American Educational Research Association stress that it is not appropriate to use a test designed for one purpose (high school basic skills) for another purpose (college admission).

The methodology for analyzing alignment between tests and standards that I use is grounded theoretically in Webb's notion of content focus alignment. (Webb, 1997, 1999). Using methodology employed by Webb (1999, 2002), Stanford 9 was analyzed along four criteria for content focus alignment. With UC tests such as SAT II and subject A, this approach yields a value for each criterion as well as a benchmark to evaluate how

well Stanford 9 met or exceeded an acceptable level of alignment with UC test standards for a given criterion. The four alignment criteria analyzed and the manner in which they are addressed include:

1. *Depth of Knowledge Consistency.* First, the key knowledge and skills in a test such as Stanford 9 were rated for cognitive complexity by trained raters using a five-point scale adapted from Marzano (2001). Then, assessment items were rated on this scale as well. Test items were compared with UC A-G subject matters to determine if Stanford 9 assessment items were at the same, higher, or lower level of cognitive complexity as the A-G subject matters and SAT II.

2. *Categorical Concurrence.* The second analysis involved determining the match between the UC A-G subject matters and the Stanford 9 assessment items. The goal was to determine two things: First, do Stanford 9 assessments cover areas deemed important to university success; and, second, is Stanford 9 in its current format useful for determining such relationships? Raters were asked to identify which (if any) A-G standards were addressed by each Stanford 9 assessment item.

3. *Range of Knowledge.* For those Stanford 9 items that did match with UC A-G requirements, the range of the match was determined by tallying the number of each A-G requirement that was addressed by one or more Stanford 9 assessment item. This criterion gives an estimate of the breadth of expected knowledge addressed in the Stanford 9. As Webb states, "The range-of-knowledge criterion is used to judge whether a comparable span of knowledge expected of students by a standard is the same as, or corresponds to, the span of knowledge that students need in order to correctly answer the assessment items/activities." (Webb, 1999, p. 8).

4. *Balance of Representation.* The final analysis identified the distribution of items in Stanford 9 matched with specific UC A-G requirements. This criterion helps indicate the extent to which Stanford 9 assessment items are evenly distributed across the A-G requirements that UC deems important.

There have been other alignment studies conducted to determine alignment between the Stanford 9 and university assessments and standards. Specifically, Education Trust (1999, p. 27) found that the Stanford 9 multiple choice test contained many fewer Algebra I, Algebra II and trigonometry / calculus items than SAT I or ACT. In addition to the problems above, Stanford 9 included numerous test items on data, probability, and statistics that were not included in SAT I, ACT admissions tests, or placement tests (Compass and Accuplace).

Le and Hamilton of the Rand Corporation (2002) found the same types of misalignment problems between the Stanford 9 high school test and SAT I and SAT II for both English Language Arts and Mathematics. Rand documented major discrepancies between Stanford 9 and SAT I and II with regard to testing frameworks, time allowed for answering, number of items, purpose, and content as specified in test specifications.

The Stanford tests are also not aligned with college placement exams. Among members of the high school class of 1992 who enrolled in postsecondary education, 58% of those who never took remedial courses earned a bachelor's degree by the year 2000. Among those who took remedial reading classes, only 17% earned a bachelor's degree by the year 2000. (National Center for Education Statistics, Condition of Education, Indicator 18, 2004). Remediation requirements for students are based on college placement tests, and not Stanford 10 or other high school tests. Placement tests such as the UC Subject A exam have much higher expectations than California's statewide K-12 tests (California Standards Test). There is scant predictive validity or content/skills alignment for Stanford 10 tests with performance on UC Subject A, taken before the UC freshman year begins. Stanford 10 relies on a multiple choice format while Subject A requires a student to provide a written response that is quite different from multiple choice test designs. [4]

In sum, high scores on the Stanford test are not indicative of college preparation for highly selective universities like UC. Stanford 10 is not designed to be predictive of preparation for undergraduate work at a highly selective university. UC is among the most selective universities in the nation and needs to use appropriate tests for admissions and placement decisions. These tests must be aligned with SAT II and the A-G subject matter content and skills that students should master before attending UC.

2. ACSI Students Do Not Perform As Well On Relevant College Preparatory Exams, Nor Do They Perform As Well Once They Arrive at UC

I have reviewed the tables and analysis prepared by Samuel J. Agronow of the UC Office of the President, which examine the performance of ACSI students on college entrance exams, as well as their performance once they arrive at UC. His report and data tables are included at Attachment 1. These studies are much more helpful than the comparisons provided by Plaintiffs' experts because: (a) they focus on the SAT IIs, which are aligned with college preparatory standards, and (b) they control for parental income, parental education, and other factors that we know affect educational outcomes.

ACSI students score lower on the SAT II than similarly situated students. This suggests that there are shortcomings with the content of some ACSI course outcomes (e.g. biology, chemistry, history, etc.), since, as described earlier, the SAT II is aligned with specific course knowledge.

Once they enroll at UC, ACSI students report that they are less engaged in research and have lower academic effort. A potential cause of this behavior could be high school courses that teach less critical thinking and analysis of alternative explanations for factual outcomes. As I discussed in Section I, if high school students do

[4] Additionally, the Coleman and Hofer Test (1987) cited in the Erickson report is twenty years old, and is not remotely related to UC standards or aligned with SAT II. It is a short, rudimentary test of English/language arts and mathematics.

not take courses that sufficiently impart content and skill acquisition as expected by universities, students will be less academically engaged and successful once they arrive at the university.

Finally, ACSI students have lower GPAs in the first two years at UC, and are more likely to drop out and take a longer time to degree. These negative outcomes are associated in a wide variety of literature with lower quality of secondary school preparation. Agronow's overall conclusion that "given their demographic backgrounds and academic success in high school, ACSI students would be expected to perform better at UC than they actually do" strongly suggests an affect on their collegiate experience from their ACSI high school experience.

UC's data studies provide strong confirmation of my conclusions in this report. Specifically, the difficulties that ACSI students appear to have on the SAT II and in their UC studies suggest problems with the preparation they are receiving in high school. This provides additional justification for including ACSI schools, along with all other California high schools, in UC's course review process.

IV. CONCLUSION

The most important single factor in college success is preparation through high school course content and skills acquisition. The high school courses, however, must teach the content and skills that colleges expect, and research has demonstrated that there is a disconnect between what high schools and colleges think is necessary for college prep. Through its A-G process, UC is working to bridge that gap between high school and college through an open and iterative communication process that sets forth its expectations in a reasonable and needed way. UC is unique in its selectivity and in its guarantee of admission to those students with sufficient grades in A-G courses, and both of these unique elements bolster the reasonableness of its course review process. And, UC's extremely high retention rates are evidence that its system is working.

Although Plaintiffs' experts argue that ACSI students are better prepared for college, the evidence suggests the contrary. Not only do they score lower on the relevant college admission exams, but they perform more poorly once they arrive at UC. The close link between high school course content and college success suggests that these outcomes are due in part to poor high school preparation. As such, it is reasonable and wise for UC to review ACSI high school courses along with all other submitted high school courses.

ATTACHMENT 1

Attachment 1:

Analysis of ACSI v. Non-ACSI Applicants and Enrollees at the University of California

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At the request of the University of California Office of the General Counsel, I have conducted an analysis of the characteristics and performance of applicants and enrolled students throughout the University of California ("UC") system who attended schools that are members of the Association of Christian Schools International ("ACSI") compared to the characteristics and performance of non-ACSI applicants and enrollees. The analysis was conducted in March and April 2007 using a database containing student and applicant data that is maintained by the University of California Office of the President. ACSI schools were identified based on a list provided by plaintiffs during discovery in the *ACSI v. Stearns* litigation. Non-ACSI schools include all other schools sending students to the University of California. The overwhelming majority of "non-ACSI" students attended California public high schools.

As a first step, I compared demographic and academic characteristics of UC applicants from ACSI schools to applicants from non-ACSI schools, students admitted to UC from ACSI schools to admits from non-ACSI schools, and students enrolling in UC from ACSI schools to enrollees from non-ACSI schools. Table 1 shows the results of these comparisons for all students who applied for admission to UC from Fall 1994 to Fall 2006. As Table 1 demonstrates, the characteristics of ACSI applicants, admits and enrollees vary in a number of important respects from those of non-ACSI students. For example, on average, ACSI students come from families that are much wealthier than non-ACSI students. The average ACSI student's family income is as much as $20,000 higher than the average for other students. Similarly, on average, the parents of ACSI students tend to have more education than non-ACSI students.

Characteristics such as family income and parental education (among others) are known to affect student achievement and test scores. In order to isolate the effect of these students' high school educations on their test scores and college performance, it is necessary to control for such factors. Such controls permit comparison of ACSI students' performance with ***similarly situated*** students from non-ACSI schools. I, thus, employed linear multiple regression or logistic regression analysis using a variety of pre-college academic, demographic and school variables as "control" variables. Both linear multiple regression and logistic regression analysis are standard and accepted techniques in social science research for isolating the effects of particular variables of interest. The control variables included GPA in high school, SAT I and SAT II scores, numbers of semesters

of courses taken in high school in each of the UC A-F subjects (History, English, Math, Science, Language, Electives), number of semesters of honors/AP/IB or college courses taken while in high school, identification of a student as UC Eligible in the Local Context (ELC), parent income, parent educational level (highest of mother or father), first language spoken in the home (English or another), academic preparation (outreach) programs participated in while in high school, ethnic group affiliation, gender, state rank (1 to 10) on the Academic Performance Index (API) for California public high schools, and a code which distinguishes students as enrolling from an ACSI high school (code of "1"), or from a non-ACSI high school (code of "0"). The purpose for using these controls is to isolate the effect of attending an ACSI school on outcomes. The outcome measures I examined in these regression analyses included UC grade point average (GPA) after one year of enrollment, UC GPA after 2 years of enrollment, UC GPA at graduation, time-to-degree, dropout (leave UC after 1 or 2 years with UC GPA less than 2.00), and a series of scores reflecting attitudes or engagement in college from the 2006 University of California Undergraduate Experience Survey (UCUES). In a series of separate linear multiple regression analyses I examined the degree to which a similarly situated ACSI students performed on the SAT I and SAT II tests. In these regressions the SAT I and SAT II tests served as outcome variables, and the other variables listed above (save for the SATs) served as the control measures. In each multiple regression table I report the ***"weight" given for a student being ACSI*** (in statistics terminology, the "B" and Beta weights), *controlling* for the other variables in the analysis. I also report whether these weights are statistically significant. The B weights are summarized in Tables A, B, and C. In each table I also report the sample size included in each regression and the "R-square," a measure of the degree to which the control variables "explain" each outcome variable being studied.

Using this methodology, I first compared the performance of UC applicants from ACSI schools to performance of non-ACSI applicants on the SAT I and SAT II examinations. SAT I and SAT II performance makes a useful comparison because all applicants to UC are required to take these tests (or the analogous ACT tests, scores which are "translated" to equivalent SAT scores), and because these tests are the best commonly-administered standardized tests for determining student preparation for college. I conducted this analysis for students who applied for admission for Fall 2001 through Fall 2005 (scores were not yet available for Fall 2006). The results of this analysis, (see Tables 6a-6e and Summary Table B), show that ACSI applicants have significantly ***lower*** SAT I and SAT II scores than similarly situated non-ACSI applicants. The pattern holds for every year and every test studied. On the SAT I, ACSI students' scores ranged from 8.9 points lower in 2004 to as much as 49.11 points lower in 2001. (The SAT I result was statistically significant in every year except 2005.) On the SAT II, ACSI students' scores ranged from 32.84 points lower (out of a possible total of 2400 points) in 2004 to 83.35 points lower in 2001 (statistically significant in every year). In other words, ***given their demographic backgrounds academic success in high school, ACSI students would be expected to perform better on the SAT than they actually do.***

I next compared the actual performance at UC of UC students who came from ACSI schools to students who came from non-ACSI schools, again controlling for a wide

range of demographic and academic factors. The results of these analyses are presented in summary form in Summary Table A and in more detail in Tables 2 through 5. Again, these analyses show that, across all measures of performance and in all years studied, ACSI graduates do not perform as well at UC as similarly-situated graduates of non-ACSI schools. In other words, ***given their demographic backgrounds and academic success in high schools ACSI students would be expected to perform better at UC than they actually do***. Following are the results relating to each of the UC outcomes studies:

- I analyzed UC GPA after one year for students entering in Fall 1998 through Fall 2005, (Table 2). The results showed that ACSI students consistently achieved ***lower*** cumulative first year GPAs than similarly situated non-ACSI students—from 0.115 points lower (on a scale that ranges from 0 to 4.00) on average for Fall 1999 entrants to 0.223 lower for Fall 2001 entrants. The results were statistically significant in every year studied.

- I analyzed UC GPA after two years for students entering in Fall 1998 through Fall 2004, (Table 3). Again, ACSI students achieved ***lower*** second year cumulative GPAs than similarly-situated non-ACSI students in every year, from 0.072 points lower for 1999 entrants to 0.171 points lower for 2001 entrants. The results were statistically significant in every year.

- I analyzed 1 and 2 year dropout rates (defined as leaving UC with a GPA under 2.00) for students entering Fall 1999 through 2005, (Table 4). ACSI students are ***more likely*** than similarly-situated non-ACSI students to leave UC in academic difficulty in every year studied. The results were statistically significant or near statistical significance in 2001, 2004 and 2005.

- I analyzed the time taken to complete a UC degree for students entering in Fall 1998 through Fall 2000 and GPA at graduation, (Table 5). For Fall 1998 and Fall 1999, ACSI students took, respectively, 0.634 and 0.344 ***more terms*** to graduate that similarly-situated non-ACSI students, both statistically significant results. (Students entering in the Fall 2000 from ACSI schools also took longer to graduate, but the result was not statistically significant.) Similarly, GPA at graduation was significantly ***lower*** for ACSI students in two of the three years studied (2000 and 1998 entrants) than for similarly situated non-ACSI students.

Finally, in order to get some idea of the reasons for ACSI students' consistently poorer performance at UC, I analyzed results from a survey, titled the California Undergraduate Experience Survey (or "UCUES") that was administered to students during the Spring of 2006. The survey, which was administered for purposes unrelated to the *ACSI* litigation, sought feedback from UC undergraduates regarding their undergraduate experience in a wide range of areas. Students were asked a number of questions about their experiences, and answers to these questions were combined to

produce "factor scores" for upper division students (juniors and seniors) that provide an assessment of the nature of the students' academic and social experiences. Over 64,000 upper division students were surveyed. The survey was completed by 24,462 upper division non-ACSI and 219 upper division ACSI students—response rates of 38.1% and 35.9%, respectively. After controlling for a wide range of demographic and academic factors, the results again showed some significant differences between the undergraduate experiences of ACSI and non-ACSI students, (Tables 7 and Summary Table C). ACSI students report significantly ***lower academic effort***, are significantly ***less engaged in research***, are significantly ***less likely to engage in collaborative learning***, and report that they are significantly ***less likely to use time well*** than similarly-situated non-ACSI students. ACSI students also rate their quality of instruction and courses in major significantly lower than similarly situated non-ACSI students do.

In summary, when other relevant demographic and academic characteristics are controlled for, attendance at an ACSI school is associated with lower standardized test scores, lower college grades, higher dropout rates, longer time to graduation, and, on many important measures, a lower "quality" of undergraduate experience.

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SUMMARY TABLE A:

Regressions Predicting Outcomes for Enrolled UC Students:
GPA after 1 Year, 2 Years, Dropout, Time-to-Degree, GPA at Graduation

UC OUTCOME AND COHORT EVALUATED	Amount of *Increase* or *Decrease* for "Similarly Situated" ACSI Students	Statistical Significance (p<)
UC GPA AFTER 1 YEAR		
Fall 2005 entrants	-0.141	0.000
Fall 2004 entrants	-0.116	0.000
Fall 2003 entrants	-0.138	0.000
Fall 2002 entrants	-0.110	0.001
Fall 2001 entrants	-0.223	0.000
Fall 2000 entrants	-0.143	0.000
Fall 1999 entrants	-0.115	0.003
Fall 1998 entrants	-0.134	0.003
UC GPA AFTER 2 YEARS		
Fall 2004 entrants	-0.095	0.001
Fall 2003 entrants	-0.087	0.002
Fall 2002 entrants	-0.111	0.000
Fall 2001 entrants	-0.171	0.000
Fall 2000 entrants	-0.110	0.000
Fall 1999 entrants	-0.072	0.034
Fall 1998 entrants	-0.160	0.000
DROPOUT AFTER 1 or 2 YEARS		
Fall 2005 entrants (1 year dropout)	0.541	0.054
Fall 2004 entrants (2 year dropout)	0.608	0.013
Fall 2003 entrants (2 year dropout)	0.410	0.132
Fall 2002 entrants (2 year dropout)	0.407	0.137
Fall 2001 entrants (2 year dropout)	0.599	0.024
Fall 2000 entrants (2 year dropout)	0.454	0.124
Fall 1999 entrants (2 year dropout)	0.078	0.836
TIME-TO-DEGREE (Number of Terms)		
Fall 2000 entrants	0.095	0.367
Fall 1999 entrants	0.344	0.005
Fall 1998 entrants	0.634	0.000
UC GPA at GRADUATION		
Fall 2000 entrants	-0.078	0.003
Fall 1999 entrants	-0.043	0.144
Fall 1998 entrants	-0.101	0.003

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SUMMARY TABLE B:

Regressions Predicting SAT Scores for UC Applicants:
SAT I Total, SAT II Writing, SAT II Math, SAT II Third Score, and SAT II Total

SAT SCORE AND COHORT EVALUATED	Amount of *Decrease* in SAT Scores for "Similarly Situated" ACSI Applicants	Statistical Significance (p<)
Fall 2005 Applicants		
SAT I Total (Math+Verbal)	-13.33	0.010
SAT II Writing	-17.64	0.000
SAT II Math	-18.04	0.000
SAT II Third Test	-17.68	0.000
SAT II Total	-51.63	0.000
Fall 2004 Applicants		
SAT I Total (Math+Verbal)	-8.90	0.104
SAT II Writing	-13.24	0.000
SAT II Math	-10.23	0.002
SAT II Third Test	-8.94	0.048
SAT II Total	-32.84	0.000
Fall 2003 Applicants		
SAT I Total (Math+Verbal)	-16.65	0.001
SAT II Writing	-17.16	0.000
SAT II Math	-12.63	0.000
SAT II Third Test	-7.37	0.089
SAT II Total	-35.50	0.000
Fall 2002 Applicants		
SAT I Total (Math+Verbal)	-25.62	0.000
SAT II Writing	-14.66	0.000
SAT II Math	-19.65	0.000
SAT II Third Test	-11.94	0.011
SAT II Total	-49.60	0.000
Fall 2001 Applicants		
SAT I Total (Math+Verbal)	-49.11	0.000
SAT II Writing	-28.31	0.000
SAT II Math	-32.10	0.000
SAT II Third Test	-22.99	0.000
SAT II Total	-83.35	0.000

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SUMMARY TABLE C:

Regressions Predicting University of California Undergraduate Experience Survey (UCUES) 2006 Factor Scores for Upper Division Students

UCUES FACTOR SCORE EVALUATED	Amount of *Decrease* in UCUES Factor Scores for "Similarly Situated" ACSI Students	Statistical Significance (p<)
1a: Quality of Instruction and Courses in Major	-0.40	0.006
2b: Cultural Appreciation and Social Awareness	-0.20	0.129
4c: Elevanted Academic Effort	-0.32	0.032
6: Research Experiences	-0.29	0.050
7a: Collaborative Learning	-0.26	0.082
8: Use of Time	-0.32	0.026

Note:
Scores have UC Wide mean of 5.0 and standard deviation of 2.0 and range from 0.1 to 10. Higher scores are generally better.

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Table 1: A Profile of New ACSI vs Other Freshmen Applicants, Admits and Enrollees: Fall 1994 - Fall 2006

	APPLICANTS				ADMITS				ENROLLED				YIELD	
	NOT ACSI		ACSI		NOT ACSI		ACSI		NOT ACSI		ACSI		Not ACSI	ACSI
ITEM / Category	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Percent	Percent
TOTAL	854,079	100.0%	7,732	100.0%	671,113	100.0%	6,172	100.0%	381,063	100.0%	3,063	100.0%	53.0%	49.6%
Enrollment per Year (Percent of Total Enrollment per Year - 'Row' Percentages)														
Fall 1994	48,683	99.5%	242	0.5%	38,932	99.5%	189	0.5%	22,962	99.6%	99	0.4%	56.6%	52.4%
Fall 1995	51,038	99.4%	298	0.6%	41,307	99.5%	227	0.5%	22,746	99.4%	129	0.6%	53.8%	56.8%
Fall 1996	53,758	99.4%	344	0.6%	42,680	99.4%	248	0.6%	23,766	99.5%	131	0.5%	55.7%	52.8%
Fall 1997	55,690	99.3%	413	0.7%	43,976	99.3%	319	0.7%	24,522	99.3%	183	0.7%	55.8%	57.4%
Fall 1998	59,712	99.2%	459	0.8%	46,691	99.3%	340	0.7%	25,927	99.4%	169	0.6%	55.5%	49.7%
Fall 1999	64,906	99.2%	504	0.8%	48,965	99.2%	409	0.8%	27,040	99.2%	222	0.8%	55.2%	54.3%
Fall 2000	67,218	99.1%	627	0.9%	50,962	99.1%	487	0.9%	28,092	99.0%	271	1.0%	55.1%	55.6%
Fall 2001	72,025	99.1%	690	0.9%	55,084	99.0%	538	1.0%	30,039	99.1%	265	0.9%	54.7%	49.3%
Fall 2002	74,162	99.1%	707	0.9%	58,000	99.1%	556	0.9%	31,002	99.0%	303	1.0%	53.4%	54.0%
Fall 2003	77,166	99.0%	813	1.0%	61,457	98.9%	689	1.1%	31,379	99.0%	304	1.0%	51.1%	44.1%
Fall 2004	75,662	98.9%	815	1.1%	54,155	98.9%	609	1.1%	29,188	99.0%	290	1.0%	53.9%	47.6%
Fall 2005	75,637	98.9%	863	1.1%	60,672	98.8%	733	1.2%	31,131	99.0%	325	1.0%	51.3%	44.3%
Fall 2006	82,242	98.9%	953	1.1%	67,413	98.8%	828	1.2%	35,007	98.9%	375	1.1%	51.9%	45.3%
Applicants, Admits, Enrollment by Campus														
Berkeley	412,791	48.2%	2,504	32.4%	115,108	17.2%	529	8.6%	48,005	13.3%	219	7.1%	41.7%	41.4%
Davis	321,747	37.6%	3,025	39.1%	205,700	30.7%	1,719	27.9%	52,815	14.6%	450	14.7%	25.7%	26.2%
Los Angeles	470,309	54.9%	4,234	54.8%	140,768	21.0%	870	14.1%	53,309	14.7%	469	15.4%	37.9%	47.0%
Riverside	225,794	26.4%	2,702	34.9%	184,581	27.5%	2,196	35.6%	34,382	9.5%	489	16.0%	18.6%	22.2%
San Diego	430,645	50.3%	4,163	53.8%	191,839	28.6%	1,575	25.5%	45,117	12.5%	440	14.4%	23.5%	27.9%
Santa Cruz	232,590	27.1%	1,399	18.1%	182,761	27.2%	997	16.2%	33,749	9.3%	325	4.1%	18.5%	32.5%
Santa Barbara	374,485	43.7%	3,176	41.1%	214,558	32.0%	1,608	26.1%	47,172	13.0%	315	10.3%	22.0%	19.6%
Irvine	329,647	38.5%	3,666	47.4%	108,636	29.6%	2,203	35.7%	46,264	12.8%	605	19.8%	23.3%	27.5%
Merced (2005 and 2006 only)	35,388	4.1%	463	6.0%	24,326	3.6%	359	5.7%	1,698	0.5%	11	0.4%	4.6%	3.1%
Home Location														
San Francisco Bay Area (9 counties)	180,222	21.0%	1,870	24.3%	153,290	22.8%	1,553	25.2%	86,285	23.3%	794	26.0%	58.3%	50.5%
Other Northern California	105,205	12.3%	936	12.1%	89,847	13.4%	724	11.7%	40,355	13.6%	338	11.0%	54.9%	46.3%
Los Angeles County	218,405	25.5%	2,260	29.2%	177,589	26.5%	1,789	29.0%	99,902	27.0%	936	30.6%	56.3%	52.3%
Other Southern California	227,558	26.6%	2,497	32.3%	190,397	28.4%	2,008	32.5%	108,127	30.2%	968	31.5%	57.8%	48.1%
Out-of-State Address	98,979	11.6%	11	0.1%	50,012	7.5%	6	0.1%	14,379	4.0%	2	0.1%	28.8%	33.3%
Foreign Address	26,106	3.0%	149	1.9%	9,648	1.4%	92	1.5%	2,720	0.8%	37	1.2%	28.6%	40.2%
Undefined Address	270	0.0%	0	0.0%	135	0.0%	0	0.0%	75	0.0%	0	0.0%	55.6%	not applic
Gender (from Admission Application)														
Female	433,958	55.3%	3,988	51.6%	377,400	56.2%	3,261	52.8%	200,554	55.4%	1,587	51.8%	53.1%	48.7%
Male	382,422	44.6%	3,740	48.4%	293,502	43.7%	2,910	47.1%	161,303	44.6%	1,476	48.2%	55.0%	50.7%
Gender not Reported	299	0.0%	4	0.1%	211	0.0%	1	0.0%	46	0.0%	0	0.0%	21.8%	not applic
Ethnicity (from Admission Application)														
American Indian/Alaskan Native	5,602	0.7%	79	1.1%	4,498	0.7%	68	1.1%	2,312	0.6%	30	1.0%	51.4%	44.1%
African American	35,882	4.3%	403	5.4%	25,514	3.5%	280	4.5%	11,708	3.5%	138	4.4%	50.3%	48.5%
Chicano/Latino	123,953	14.9%	852	11.2%	95,947	14.3%	652	10.6%	49,855	13.9%	279	9.1%	52.0%	42.7%
Asian, Filipino, Pacific Islander, East Indian & Pakist	263,874	31.8%	1,929	26.0%	216,430	32.8%	1,577	26.4%	130,806	38.3%	1,010	34.0%	63.3%	54.0%
Caucasian	329,294	39.8%	3,452	46.5%	264,189	40.0%	2,848	47.6%	128,971	38.0%	1,249	42.1%	48.8%	43.9%
Other	15,726	1.9%	187	2.5%	12,024	1.8%	133	2.2%	6,348	1.8%	70	2.4%	53.1%	52.4%
Ethnicity Not Reported	54,040	6.5%	544	7.3%	43,351	6.6%	453	7.6%	21,699	6.0%	210	7.1%	49.3%	46.4%
Total Domestic Respondents	829,141	100.0%	7,426	100.0%	658,943	100.0%	5,961	100.0%	357,760	100.0%	2,979	100.0%	54.2%	49.7%
Foreign Citizen (All Ethnic Groups)	27,568	3.2%	306	4.0%	11,570	1.7%	181	3.1%	4,134	1.1%	55	3.0%	37.0%	48.7%
Underrepresented Minorities														
Amer Indian, African American, Chicano, Latino	165,697	20.0%	1,334	17.7%	123,559	18.7%	970	16.2%	63,875	17.9%	431	14.5%	51.7%	44.4%

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	APPLICANTS				ADMITS				ENROLLED				YIELD	
	NOT ACSI		ACSI		NOT ACSI		ACSI		NOT ACSI		ACSI		Not ACSI	ACSI
ITEM / Category	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Percent	Percent
TOTAL	656,079	100.0%	7,752	100.0%	573,113	100.0%	6,172	100.0%	241,963	100.0%	5,063	100.0%	55.0%	48.0%
Parent Education (Highest of the mother or father)														
No High School	42,717	5.2%	52	0.7%	33,700	5.3%	45	0.8%	20,328	5.0%	31	1.1%	60.2%	68.9%
Some High School	25,106	3.1%	39	0.6%	19,300	3.0%	49	0.8%	11,628	3.4%	32	1.1%	60.9%	65.3%
High School Graduate	67,422	8.3%	448	6.1%	51,724	8.1%	352	6.0%	30,944	8.9%	269	9.8%	59.8%	56.8%
Some College	92,722	11.4%	930	12.6%	70,340	11.0%	711	12.1%	39,053	11.3%	341	11.6%	55.5%	48.0%
2-Year College Graduate	48,682	6.0%	654	8.9%	37,417	5.8%	486	8.2%	20,733	6.0%	223	7.6%	55.4%	45.9%
4-Year College Graduate	211,862	25.9%	2,422	32.8%	163,431	25.5%	1,902	32.3%	88,481	25.6%	888	30.2%	54.1%	47.2%
Post-Graduate Studies	327,885	40.2%	2,787	37.9%	264,131	41.3%	2,351	39.9%	134,598	38.9%	1,204	41.1%	51.0%	51.2%
Total Providing Parent Education Information	816,489	100.0%	7,374	100.0%	639,903	100.0%	5,896	100.0%	345,763	100.0%	2,929	100.0%	54.0%	49.7%
Did NOT Provide Parent Education Information	40,195	4.7%	378	4.8%	33,210	4.7%	276	4.5%	16,240	4.5%	134	4.4%	51.7%	48.4%
First Generation College (Percent of ALL Students, including those not reporting parent education)														
Neither Parent Has a 4-Year College Degree	276,739	32.3%	2,153	27.9%	212,341	31.6%	1,643	26.6%	122,684	33.9%	827	27.0%	57.8%	50.3%
Parent Income (as reported on the entrance application)														
$1 - $9,999	22,713	3.3%	54	0.9%	17,319	3.2%	40	0.9%	10,107	3.5%	27	1.1%	61.4%	67.5%
$10,000 - $19,999	60,657	8.9%	178	2.9%	47,512	8.9%	123	2.6%	29,315	9.8%	78	3.2%	61.7%	61.8%
$20,000 - $29,999	63,970	9.4%	303	5.1%	49,944	9.3%	231	4.9%	30,133	10.1%	133	5.6%	60.3%	57.6%
$30,000 - $39,999	59,765	8.8%	365	6.2%	46,237	8.6%	277	5.9%	27,169	9.1%	167	7.0%	58.8%	60.3%
$40,000 - $49,999	52,400	7.7%	467	7.8%	40,837	7.6%	359	7.6%	23,151	7.8%	168	7.0%	56.7%	46.8%
$50,000 - $59,999	48,632	7.1%	430	7.2%	38,075	7.1%	315	6.6%	22,118	7.1%	165	6.9%	58.1%	52.4%
$60,000 - $69,999	48,177	7.2%	525	8.9%	38,545	7.2%	420	8.9%	20,939	7.0%	223	9.3%	54.3%	53.1%
$70,000 - $79,999	45,029	6.6%	439	7.4%	35,565	6.6%	348	7.4%	19,313	6.5%	173	7.2%	54.3%	49.7%
$80,000 - $89,999	39,796	5.8%	438	7.4%	31,843	5.9%	340	7.2%	17,319	5.8%	167	7.0%	54.4%	49.0%
$90,000 - $99,999	34,080	5.0%	386	6.5%	27,536	5.2%	315	6.7%	14,855	5.0%	149	6.2%	53.9%	47.3%
$100,000 - $149,999	111,228	16.3%	1,274	21.5%	89,294	16.6%	1,040	22.1%	48,060	16.1%	522	21.8%	53.8%	50.2%
$150,000 - $199,999	43,081	6.3%	533	9.0%	34,566	6.4%	445	9.5%	17,986	6.0%	218	9.1%	51.9%	49.0%
$200,000 or higher	51,716	7.6%	553	9.3%	39,336	7.3%	453	9.6%	17,820	6.0%	203	8.5%	45.0%	44.8%
Total Responding to "Income" Question on App.	681,854	100.0%	5,932	100.0%	536,421	100.0%	4,704	100.0%	297,259	100.0%	2,398	100.0%	55.5%	50.8%
Did NOT Provide Parent Income on the Application	174,025	20.4%	1,820	23.5%	134,692	20.1%	1,468	23.8%	86,254	21.9%	974	23.9%	47.0%	66.6%
Mean "Self-Reported" Parent Income	**$78,553**		**$93,754**		**$78,526**		**$95,388**		**$72,183**		**$92,083**			
Median "Self-Reported" Parent Income	**$58,500**		**$76,000**		**$58,250**		**$78,100**		**$55,050**		**$75,400**			
25th Percentile	$23,400		$40,000		$24,000		$42,000		$23,000		$40,000			
75th Percentile	$100,000		$120,000		$100,000		$120,000		$100,000		$120,000			
$1 - $29,999	147,350	21.6%	528	8.9%	114,575	21.4%	504	8.4%	69,949	23.5%	286	9.9%	61.3%	59.9%
$30,000 - $59,999	160,797	23.6%	1,256	21.2%	125,147	23.3%	948	20.2%	71,438	24.0%	700	29.9%	57.1%	52.7%
$60,000 - $99,999	167,682	24.6%	1,788	30.1%	133,569	24.9%	1,424	30.3%	72,426	24.3%	712	29.8%	54.2%	50.0%
$100,000 or higher	206,025	30.2%	2,360	39.8%	163,130	30.4%	1,938	41.2%	83,916	28.2%	948	39.4%	51.4%	48.7%
Low Parent Income (Percent of ALL Students, including those not reporting parent income)														
Under $30,000 Parent Income	147,350	17.2%	528	6.8%	114,575	17.1%	504	6.4%	69,949	19.3%	286	7.7%	61.3%	59.9%
Low Parent Income in 1998 Constant Dollars (Percent of ALL Students, including those not reporting parent income)														
Under $30,000 Parent Income	95,991	11.2%	363	4.7%	75,367	10.9%	287	4.3%	44,539	12.3%	161	5.3%	60.7%	60.3%

University of California, Office of the President

Table 1: A Profile of New ACSI vs Other Freshmen Applicants, Admits and Enrollees: Fall 1994 - Fall 2006

	APPLICANTS				ADMITS				ENROLLED				YIELD	
	NOT ACSI		ACSI		NOT ACSI		ACSI		NOT ACSI		ACSI		Not ACSI	ACSI
ITEM / Category	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Percent	Percent
TOTAL	860,079	100.0%	7,732	100.0%	671,115	100.0%	6,172	100.0%	343,963	100.0%	3,963	100.0%	51.0%	64.0%
Academic Variables/Course Taking														
Is Eligible in Local Context (ELC starting in 2001)	67,337	7.9%	687	8.9%	66,001	9.8%	620	10.0%	38,017	11.0%	340	11.1%	60.5%	54.8%
	Mean		Mean		Mean		Mean		Mean		Mean			
Semesters of Honors/AP/IB/CC in Grades 10-11	3.7		3.2		3.9		3.6		3.8		3.5			
TOTAL Semesters of A-F Courses	44.0		42.1		43.8		42.4		43.3		42.4			
Semesters of A Courses (History/Social Studies)	6.4		6.7		6.3		6.6		6.2		6.6			
Semesters of B Courses (English)	8.3		8.2		8.3		8.2		8.2		8.2			
Semesters of C Courses (Math)	9.4		8.9		9.4		9.1		9.4		9.1			
Semesters of D Courses (Science)	7.1		6.5		7.1		6.6		7.1		6.6			
Semesters of E Courses (Foreign Language)	7.2		6.2		7.2		6.3		7.1		6.4			
Semesters of F Courses (Electives, VPA 2005 onward)	5.6		5.6		5.5		5.5		5.3		5.3			
High School GPA														
Below 2.80	38,680	4.6%	205	3.0%	5,265	0.8%	30	0.5%	3,561	0.9%	25	0.8%	63.8%	83.3%
2.80 - 2.99	33,759	4.0%	229	3.0%	13,111	2.0%	56	0.9%	7,352	2.1%	28	0.9%	56.1%	50.0%
3.00 - 3.19	68,504	8.2%	544	7.1%	41,746	6.3%	282	4.6%	21,895	6.1%	110	3.9%	52.4%	42.2%
3.20 - 3.39	88,398	10.6%	675	8.8%	67,250	10.1%	489	7.8%	34,921	9.7%	236	7.7%	51.9%	49.2%
3.40 - 3.59	112,220	13.4%	888	11.6%	93,439	14.1%	713	11.6%	46,635	13.0%	346	11.4%	53.1%	48.5%
3.60 - 3.79	127,144	15.2%	1,058	13.8%	109,853	16.6%	885	14.4%	60,295	16.8%	431	14.1%	54.9%	48.7%
3.80 - 3.99	122,772	14.7%	1,137	14.8%	108,573	16.4%	1,020	16.6%	60,876	17.0%	499	16.4%	56.1%	43.9%
4.00 - 4.19	130,844	15.7%	1,673	21.8%	126,053	19.0%	1,560	25.4%	66,445	18.4%	793	26.0%	53.1%	50.7%
4.20 and above	105,158	12.7%	1,165	15.2%	98,915	14.8%	1,112	18.1%	50,460	14.1%	572	18.8%	51.4%	51.4%
Total with Valid Weighted-Capped GPAs	837,870	100.0%	7,686	100.0%	663,307	100.0%	6,138	100.0%	358,198	100.0%	3,047	100.0%	54.0%	49.6%
Mean *Weighted-Capped* High School GPA	**3.66**		**3.75**		**3.70**		**3.84**		**3.75**		**3.84**			
Median *Weighted-Capped* High School GPA	**3.71**		**3.81**		**3.80**		**3.90**		**3.80**		**3.91**			
25th Percentile	3.35		3.44		3.48		3.59		3.50		3.60			
75th Percentile	4.08		4.09		4.07		4.12		4.06		4.13			
High School GPA														
Below 2.80	40,329	7.0%	283	4.8%	10,786	2.4%	49	1.0%	6,203	2.6%	31	1.3%	57.5%	63.3%
2.80 - 2.99	36,508	6.4%	268	4.5%	20,620	4.6%	116	2.4%	10,700	4.5%	45	1.9%	52.3%	38.8%
3.00 - 3.19	68,340	11.9%	545	9.2%	50,009	11.1%	377	7.8%	25,809	10.8%	179	7.6%	51.6%	47.5%
3.20 - 3.39	84,847	14.8%	713	12.0%	69,625	15.4%	563	11.7%	36,324	15.1%	265	11.3%	52.2%	47.1%
3.40 - 3.59	99,883	17.4%	895	15.1%	85,393	19.0%	759	15.6%	46,430	19.3%	346	14.8%	54.4%	45.6%
3.60 - 3.79	102,086	17.9%	1,064	18.5%	90,052	19.9%	984	20.4%	48,503	20.2%	480	20.5%	53.9%	48.8%
3.80 - 3.99	95,968	16.8%	1,293	21.9%	85,501	18.9%	1,196	24.8%	46,253	19.3%	608	26.0%	54.1%	50.8%
4.00	48,937	7.7%	826	14.0%	38,998	8.6%	782	16.2%	18,699	7.8%	386	16.5%	47.9%	49.4%
Total with Valid Weighted-Capped GPAs	532,898	100.0%	5,916	100.0%	451,582	100.0%	4,820	100.0%	240,016	100.0%	2,340	100.0%	53.2%	48.5%
Mean *Unweighted* High School GPA	**3.46**		**3.58**		**3.53**		**3.64**		**3.55**		**3.65**			
Median *Unweighted* High School GPA	**3.50**		**3.65**		**3.57**		**3.72**		**3.57**		**3.72**			
25th Percentile	3.19		3.30		3.29		3.42		3.30		3.43			
75th Percentile	3.79		3.89		3.81		3.91		3.81		3.92			

University of California, Office of the President

Table 1: A Profile of New ACSI vs Other Freshmen Applicants, Admits and Enrollees: Fall 1994 - Fall 2006

	APPLICANTS				ADMITS				ENROLLED				YIELD	
	NOT ACSI		ACSI		NOT ACSI		ACSI		NOT ACSI		ACSI		Not ACSI	ACSI
ITEM / Category	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Percent	Percent
TOTAL	834,079	100.0%	7,737	100.0%	671,113	100.0%	6,172	100.0%	361,903	100.0%	3,863	100.0%	53.9%	62.6%
SAT I Total (Verbal + Math 1600 Point Scale)														
400 - 500	259	0.0%	0	0.0%	38	0.0%	0	0.0%	10	0.0%	0	0.0%	26.3%	not applic
501 - 600	1,483	0.2%	0	0.0%	337	0.1%	0	0.0%	155	0.0%	0	0.0%	46.0%	not applic
601 - 700	6,322	0.8%	15	0.2%	2,248	0.3%	5	0.1%	1,088	0.3%	1	0.0%	48.4%	20.0%
701 - 800	18,641	2.2%	105	1.4%	8,846	1.3%	36	0.6%	4,618	1.3%	20	0.7%	52.2%	55.6%
801 - 900	42,270	5.0%	298	3.9%	25,209	3.8%	131	2.2%	13,553	3.8%	64	2.1%	53.7%	48.9%
901 - 1000	85,169	10.1%	703	10.0%	58,808	8.9%	460	7.6%	32,379	9.0%	224	7.4%	55.0%	48.7%
1001 - 1100	126,876	15.1%	1,318	17.4%	96,504	14.5%	956	15.7%	53,590	14.9%	443	14.6%	55.5%	46.3%
1101 - 1200	170,669	20.3%	1,883	24.9%	130,193	19.6%	1,580	25.9%	77,475	21.5%	777	25.6%	55.7%	49.2%
1201 - 1300	173,482	20.4%	1,658	22.3%	145,541	21.9%	1,495	24.5%	81,739	22.7%	734	24.2%	56.2%	49.1%
1301 - 1400	124,986	14.8%	1,035	13.7%	107,265	16.1%	973	16.0%	58,485	16.3%	530	17.5%	54.5%	54.5%
1401 - 1500	70,341	8.4%	395	5.2%	61,084	9.2%	377	6.2%	29,531	8.2%	205	6.8%	48.3%	54.4%
1501 - 1600	23,129	2.7%	80	1.1%	20,230	3.0%	77	1.3%	6,905	1.9%	39	1.3%	34.1%	50.6%
Total with Valid SAT Composite Scores	843,827	100.0%	7,573	100.0%	665,443	100.0%	6,090	100.0%	359,528	100.0%	3,037	100.0%	54.0%	49.9%
Mean SAT Composite: Verbal + Math	1176		1168		1197		1195		1191		1201			
Median SAT Composite: Verbal + Math	1180		1180		1210		1200		1200		1200			
25th Percentile	1050		1070		1080		1100		1080		1110			
75th Percentile	1310		1280		1320		1300		1310		1310			
SAT II Writing														
200 - 300	654	0.1%	8	0.1%	259	0.0%	2	0.0%	129	0.0%	1	0.0%	56.3%	50.0%
301 - 400	39,747	5.2%	289	4.3%	23,658	3.8%	146	2.6%	13,413	3.9%	71	2.5%	56.7%	48.8%
401 - 500	172,709	22.7%	1,551	23.1%	128,398	20.6%	1,135	19.8%	73,002	21.3%	549	19.0%	56.8%	49.2%
501 - 600	252,629	33.2%	2,545	37.9%	210,044	33.7%	2,166	38.5%	118,354	34.5%	1,093	37.7%	56.4%	50.3%
601 - 700	196,818	25.9%	1,724	25.6%	172,301	27.6%	1,625	28.8%	95,395	27.8%	874	30.2%	55.4%	53.8%
701 - 800	98,695	13.0%	606	9.0%	88,680	14.2%	578	10.3%	43,001	12.5%	306	10.6%	48.5%	52.9%
Total with Valid SAT II Writing Score	761,328	100.0%	6,725	100.0%	623,340	100.0%	5,635	100.0%	343,389	100.0%	2,892	100.0%	55.1%	51.3%
Mean SAT II Writing	574		567		584		580		579		583			
Median SAT II Writing	570		560		580		580		580		580			
25th Percentile	500		500		510		510		500		520			
75th Percentile	650		640		660		650		650		650			
SAT II Math (Highest of Math Level I or Math Level 2)														
200 - 300	259	0.0%	1	0.0%	66	0.0%	1	0.0%	35	0.0%	1	0.0%	53.0%	100.0%
301 - 400	23,438	3.0%	181	2.6%	12,532	1.9%	85	1.4%	6,530	1.8%	40	1.3%	52.1%	47.1%
401 - 500	139,668	17.7%	1,386	19.9%	103,647	15.7%	1,034	17.6%	54,383	15.4%	486	15.9%	53.5%	46.8%
501 - 600	252,391	31.9%	2,663	38.2%	209,073	32.3%	2,236	38.1%	114,652	32.4%	1,074	35.4%	54.8%	48.9%
601 - 700	240,561	30.4%	2,088	29.9%	208,434	32.2%	1,901	32.4%	117,477	33.2%	954	31.7%	56.4%	52.3%
701 - 800	134,077	17.0%	659	9.4%	115,226	17.8%	617	10.5%	60,674	17.2%	367	12.1%	52.7%	59.5%
Total with Valid SAT II Math Score	790,304	100.0%	6,978	100.0%	646,978	100.0%	5,874	100.0%	353,751	100.0%	2,960	97.5%	54.7%	50.4%
Mean SAT II Math	597		576		605		587		605		594			
Median SAT II Math	600		580		610		590		610		590			
25th Percentile	520		510		530		520		530		530			
75th Percentile	670		640		680		650		680		660			
SAT II Third Test (Highest Third SAT II Test Score)														
Mean SAT II Third Score	609		585		616		592		616		597			
Median SAT II Third Score	610		580		620		590		620		600			
25th Percentile	520		500		530		510		530		520			
75th Percentile	700		660		700		670		700		670			

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Table 2: UC Outcomes: GPA, Persistence, Dropout, Graduation, Time-to-Degree by Entering Freshman Cohort

Statistic	F1994	F1995	F1996	F1997	F1998	F1999	F2000	F2001	F2002	F2003	F2004	F2005
ACSI Freshman Enrollees												
*NUMBER ENROLLING (Fall Term)	98	128	131	182	168	221	271	264	300	303	290	325
NUMBER GRADUATING (Maximum Years)	70	97	92	135	123	168	214	175	148			
Retention after 1 Year	**81.6%**	85.9%	**84.0%**	87.4%	91.1%	**87.3%**	92.6%	89.8%	91.7%	90.1%	90.3%	89.8%
Retention after 2 Years	76.5%	78.9%	**73.3%**	**77.5%**	**77.4%**	81.0%	83.4%	82.2%	83.3%	83.8%	82.8%	
Dropout after 1 Year (GPA < 2.0 & NOT Retained)	5.3%	4.0%	5.6%	3.3%	1.8%	2.4%	3.0%	4.2%	4.0%	3.6%	5.2%	4.6%
Dropout after 2 Years (GPA < 2.0 & NOT Retained)	5.3%	7.1%	9.5%	7.8%	4.3%	3.9%	5.3%	7.3%	5.4%	5.3%	7.3%	
UC GPA after 1 Year	2.76	2.84	2.68	2.94	**2.81**	2.85	2.89	**2.78**	2.94	2.90	2.90	**2.88**
UC GPA after 2 Years	2.83	2.92	2.90	3.02	**2.87**	2.98	2.99	**2.91**	3.01	3.01	3.00	
Graduate in 4 Years	28.6%	31.3%	35.9%	36.3%	**31.0%**	**36.2%**	44.6%	43.9%	49.3%			
Graduate in 5 Years	61.2%	64.1%	61.8%	69.8%	**62.5%**	67.4%	74.2%	**66.3%**				
Graduate in 6 Years	67.3%	73.4%	**67.2%**	72.5%	**70.2%**	74.7%	79.0%					
Graduate in 7 Years	71.4%	75.8%	**70.2%**	74.2%	**73.2%**	76.0%						
Terms Enrolled to Graduate	13.4	13.2	12.9	12.9	**13.3**	12.9	12.5	12.2	11.5			
GPA at Graduation	3.04	3.12	3.16	3.17	3.09	3.17	3.18	3.19	3.29			
NOT ACSI Freshman Enrollees												
*NUMBER ENROLLING (Fall Term)	21,991	22,674	23,691	24,413	25,838	26,951	28,007	29,911	30,871	31,269	29,211	31,078
NUMBER GRADUATING (Maximum Years)	16,693	17,402	18,590	19,377	20,689	21,823	22,104	21,963	14,364			
Retention after 1 Year	**90.7%**	90.8%	**91.6%**	92.0%	92.2%	**92.2%**	92.3%	92.4%	91.9%	92.0%	92.5%	92.1%
Retention after 2 Years	81.8%	82.1%	**83.5%**	**84.0%**	**83.8%**	84.3%	84.4%	83.9%	84.1%	84.1%	84.4%	
Dropout after 1 Year (GPA < 2.0 & NOT Retained)	3.6%	3.7%	3.3%	3.0%	2.8%	2.5%	3.2%	3.1%	3.3%	3.3%	3.3%	3.5%
Dropout after 2 Years (GPA < 2.0 & NOT Retained)	6.0%	6.1%	5.3%	4.9%	4.6%	4.2%	4.9%	5.0%	5.2%	5.2%	5.0%	
UC GPA after 1 Year	2.80	2.81	2.80	2.89	**2.91**	2.92	2.91	**2.94**	2.94	2.95	2.96	**2.96**
UC GPA after 2 Years	2.86	2.87	2.95	2.97	**2.99**	3.01	3.00	**3.02**	3.02	3.01	3.03	
Graduate in 4 Years	34.1%	35.2%	38.4%	39.2%	**40.2%**	**42.5%**	42.7%	44.9%	46.5%			
Graduate in 5 Years	65.6%	66.3%	68.5%	69.7%	**71.0%**	72.6%	72.4%	**73.4%**				
Graduate in 6 Years	73.5%	74.3%	**76.6%**	77.3%	**78.1%**	79.2%	78.9%					
Graduate in 7 Years	75.9%	76.7%	**78.9%**	79.4%	**80.1%**	81.0%						
Terms Enrolled to Graduate	13.1	13.0	12.9	12.9	**12.8**	12.7	12.6	12.3	11.6			
GPA at Graduation	3.10	3.12	3.13	3.13	3.15	3.17	3.17	3.21	3.31			

*Note: Number enrolling differs slightly from counts in applicant-admit-enroll tables. This occurs because UC does not track those enrolled at census of their first term who later withdraw by the end of that first term.

Differences between ACSI and NOT ACSI that are **BOLDED** are statistically significant $p < .05$.

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Table 3: University of California Undergraduate Experience Survey (UCUES)
Spring 2006 Survey Factor Scores

Statistic - UCUES Factor Score	NOT ACSI	ACSI	p <
Upper Division Students who were Freshman Entrants that were Surveyed	**64,265**	**610**	
Upper Division Freshman Entrants Completing UCUES	**24,462**	**219**	
UCUES Response Rate	38.1%	35.9%	0.269
UC GPA (All Students Surveyed in Spring Term 2006)	3.12	3.10	0.576
UC GPA (UCUES Respondents in Spring Term 2006)	3.21	3.19	0.584
f1: Satisfaction with Educational Experience	5.0	4.9	0.414
f1ai: Quality of Instruction and Courses in Major	**5.0**	**4.7**	**0.021**
f1aii: Satisfaction with Access and Availability of Courses in the Major	5.0	5.0	0.818
f1b: Sense of Belonging and Satisfaction	5.1	5.2	0.299
f1c: Satisfaction with Advising	4.9	4.8	0.388
f1d: Clarity of Program Requirements, Policies & Practices	5.1	5.0	0.564
f1e: Satisfaction with Library Support	5.0	4.8	0.291
f2: Current Skills Self-Assessment (Nonquantitative)	5.1	5.0	0.427
f2a: Critical Thinking and Communication	5.1	5.1	0.910
f2b: Cultural Appreciation and Social Awareness	5.0	4.8	0.054
f3: Gains in Self-Assessment of Skills (Nonquantitative)	5.4	5.3	0.640
f3a: Gains in Critical Thinking and Communication	5.3	5.2	0.369
f3b: Gains in Cultural Appreciation and Social Awareness	5.3	5.4	0.740
f4: Development of Scholarship	4.9	4.9	0.614
f4a: Critical Reasoning and Assessment Experiences	5.0	4.9	0.791
f4b: Curricular Foundations for Reasoning	5.0	5.2	0.179
f4c: Elevated Academic Effort	4.9	4.6	0.075
f5: Understanding Other Perspectives	5.1	5.1	0.821
f5a: Gains from Interactions with Students from Different Backgrounds	5.0	4.9	0.461
f5b: Gains from Interactions with Students with Different Views and Orientations	5.2	5.3	0.221
f6: Research Experiences	**5.1**	**4.8**	**0.023**
f7: Science, Engineering & Math	5.1	5.0	0.713
f7a: Collaborative Learning	5.1	4.8	0.094
f7b: Career Orientation	5.1	5.0	0.425
f7c: Quantitative Skills	5.0	5.3	0.128
f8: Use of Time	**5.1**	**4.6**	**0.001**
f8a: Academic Time	**5.1**	**4.8**	**0.020**
f8b: Time Employed	4.9	4.7	0.074

Note: **Scores have UC Wide mean of 5.0 and standard deviation of 2.0 and range from 0.1 to 10. Higher scores are generally better.**

Table 4: REGRESSIONS PREDICTING UC GPA AFTER 1 YEAR

	Fall 2005 Entrants N=30,817				Fall 2004 Entrants N=28,259				Fall 2003 Entrants N=31,077				Fall 2002 Entrants N=30,556				Fall 2001 Entrants N=29,172				Fall 2000 Entrants N=27,168				Fall 1999 Entrants N=25,917				Fall 1998 Entrants N=24,724			
	R	R-Sq			R	R-Sq			R	R-Sq			R	R-Sq			R	R-Sq			R	R-Sq			R	R-Sq			R	R-Sq		
	0.548	0.300			0.538	0.287			0.535	0.286			0.529	0.280			0.524	0.274			0.522	0.272			0.502	0.252			0.494	0.244		
Variables in Model	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p
Intercept	-.643		-12.89	0.000	-.524		-10.07	0.000	-.389		-7.70	0.000	-.313		-6.35	0.000	-.462		-7.87	0.000	-.566		-11.18	0.000	-.273		-5.62	0.000	-.286		-5.70	0.000
Is from ACSI High School? (1=Yes, 0=No)	-.141	-.022	-4.49	0.000	-.116	-.018	-3.57	0.000	-.138	-.021	-4.35	0.000	-.110	-.017	-3.39	0.001	-.225	-.032	-6.23	0.000	-.143	-.021	-3.95	0.000	-.115	-.016	-2.93	0.003	-.104	-.017	-3.01	0.003
Semesters of A Courses (History-Soc. Stud)	.004	.011	2.06	0.039	.003	.008	1.34	0.179	-.003	-.007	-1.23	0.218	.005	.013	2.18	0.029	.003	.008	1.41	0.160	-.002	-.004	-0.95	0.518	-.001	-.002	-.27	0.787	.002	.005	0.70	0.488
Semesters of B Courses (English)	.002	.005	0.52	0.601	.001	.003	0.42	0.673	.006	.016	1.83	0.067	.007	.018	2.26	0.023	.010	.017	2.97	0.003	.009	.016	2.55	0.008	.010	.025	3.43	0.001	.013	.030	4.20	0.000
Semesters of C Courses (Math)	-.005	-.014	-2.48	0.013	-.001	-.004	-0.69	0.490	-.004	-.012	-2.06	0.039	-.006	-.021	-3.55	0.000	-.005	-.017	-2.89	0.004	-.011	-.031	-5.06	0.000	-.007	-.024	-3.28	0.001	-.011	-.036	-5.05	0.000
Semesters of D Courses (Science)	-.002	-.005	-1.49	0.154	-.003	-.011	-1.87	0.061	-.007	-.022	-4.13	0.000	-.005	-.019	-3.25	0.001	-.005	-.017	-2.95	0.003	-.008	-.024	-3.97	0.000	-.012	-.041	-6.12	0.000	-.010	-.033	-5.02	0.000
Semesters of E Courses (Language)	.009	.031	5.56	0.000	.027	.029	4.81	0.000	.006	.031	5.68	0.000	.007	.027	4.39	0.000	.005	.021	3.89	0.000	.004	.017	2.88	0.004	.005	.026	3.98	0.000	.005	.022	3.38	0.001
Semesters of F Courses (Effective or VPA)	.002	.012	2.52	0.012	.002	.014	2.70	0.007	.003	.018	3.85	0.000	.003	.022	4.31	0.000	.003	.021	4.05	0.000	.003	.020	3.71	0.000	.002	.015	2.43	0.015	.000	.000	-0.05	0.960
High School GPA (Weighted, Capped)	.550	.314	48.81	0.000	.540	.321	48.20	0.000	.522	.318	49.62	0.000	.476	.288	44.36	0.000	.515	.305	47.83	0.000	.540	.305	51.12	0.000	.492	.284	45.89	0.000	.458	.264	44.23	0.000
Highest of SAT I Total or ACT	.000	.064	7.59	0.000	.000	.106	9.15	0.000	.000	.060	7.15	0.000	.000	.075	8.40	0.000	.000	.068	7.48	0.000	.000	.092	7.95	0.000	.000	.065	5.20	0.000	.000	.065	5.32	0.000
SAT II Writing (with Mean Subs for Missing)	.001	.122	14.79	0.000	.001	.113	13.02	0.000	.001	.116	13.58	0.000	.001	.116	13.44	0.000	.001	.097	11.07	0.000	.001	.081	10.53	0.000	.001	.082	9.06	0.000	.001	.100	10.85	0.000
SAT II Math (with Mean Subs)	.000	.035	3.53	0.001	.000	.000	0.04	0.971	.000	.017	1.89	0.059	.000	.023	2.50	0.012	.000	-.003	-0.38	0.704	.000	.021	2.28	0.022	.000	.040	4.18	0.000	.000	.025	2.68	0.008
SAT II Third Test (with Mean Subs)	.000	.061	9.80	0.000	.000	.073	11.35	0.000	.000	.073	11.57	0.000	.000	.072	11.30	0.000	.000	.079	12.15	0.000	.000	.074	10.93	0.000	.001	.094	13.46	0.000	.001	.109	15.59	0.000
Semesters of Honors Courses Taken	-.005	-.041	-8.85	0.000	-.007	-.058	-9.34	0.000	-.006	-.046	-7.87	0.000	-.004	-.036	-5.19	0.000	-.005	-.037	-5.12	0.000	Variable not available prior to Fall 2001											
ELC - Is Eligible in Local Context? (1=Yes)	.024	.015	2.66	0.008	.031	.021	3.41	0.001	.016	.010	1.73	0.083	.048	.031	5.28	0.000	.048	.029	5.06	0.000	Not applicable: ELC program begins in Fall 2001											
Parent Income (with Mean Subs for Missing)	.000	.013	2.34	0.019	.000	.010	1.84	0.065	.000	.000	5.85	0.000	.000	.017	3.18	0.001	.000	.011	1.92	0.055	.000	.010	1.83	0.067	.000	.018	2.63	0.009	.000	.025	4.13	0.000
Missing Parent Income? (1=Yes, 0=No)	.012	.008	1.39	0.164	.017	.011	2.02	0.044	.009	.006	1.18	0.239	.030	.019	3.59	0.000	.020	.012	2.21	0.027	.005	.003	0.54	0.587	.022	.012	1.95	0.051	.009	.005	0.83	0.408
Highest Years of Parent Ed (with Mean Sub)	.008	.039	6.19	0.000	.006	.028	5.03	0.000	.006	.041	8.47	0.000	.007	.035	5.81	0.000	.007	.035	5.37	0.000	.011	.051	7.84	0.000	.006	.028	4.02	0.000	.005	.024	3.45	0.001
Missing Parent Education? (1=Yes, 0=No)	.016	.005	1.02	0.308	.011	.004	0.82	0.407	.057	.018	3.22	0.001	-.016	-.005	-0.91	0.362	.011	.003	0.60	0.548	.016	.005	0.88	0.380	-.002	-.001	-.11	0.911	.010	.004	0.60	0.548
First Language Spoken (1=English, 2=Other)	-.012	-.014	-2.28	0.023	.006	.007	1.09	0.274	.000	.000	-0.03	0.976	.002	.003	0.45	0.656	.000	-.001	-0.09	0.931	-.005	-.006	-0.85	0.394	-.005	-.007	-.93	0.350	-.006	-.007	-1.01	0.311
Number of Outreach Programs	-.005	-.009	-0.82	0.413	.000	.000	-0.03	0.976	-.018	-.021	-2.95	0.003	-.004	-.005	-0.67	0.505	.008	.009	1.07	0.285	-.013	-.012	-1.59	0.111	-.012	-.033	-3.80	0.000	-.022	-.023	-2.55	0.011
Participate in Federal TRIO Program?	-.022	-.008	-1.58	0.082	.028	.007	1.38	0.208	.011	.003	0.55	0.583	.029	.008	1.48	0.140	.017	.005	0.85	0.404	.061	.013	2.28	0.024	.005	.002	.36	0.722	-.016	-.004	-0.69	0.491
Participate in UC Sponsored Outreach?	-.009	-.004	-0.58	0.563	-.046	-.022	-3.19	0.001	-.011	-.005	-0.70	0.485	-.023	-.012	-1.61	0.106	-.064	-.031	-4.15	0.000	.010	.004	0.60	0.551	.001	.000	.06	0.954	.019	.008	0.94	0.350
Is Female? (1=Yes, 0=No)	.095	.072	13.89	0.000	.084	.074	13.60	0.000	.102	.079	15.05	0.000	.158	.107	20.34	0.000	.135	.104	19.19	0.000	.138	.105	15.32	0.000	.157	.120	20.35	0.000	.129	.099	16.42	0.000
Is African American (1=Yes, 0=No)	-.035	-.009	-1.80	0.072	-.017	-.004	-0.85	0.392	-.074	-.020	-3.99	0.000	-.052	-.014	-2.68	0.008	-.042	-.013	-2.36	0.018	-.094	-.024	-4.37	0.000	-.055	-.014	-2.46	0.014	-.006	-.001	-0.24	0.810
Is Asian? (1=Yes, 0=No)	-.109	-.080	-12.55	0.000	-.119	-.092	-13.93	0.000	-.121	-.092	-14.32	0.000	-.119	-.089	-13.19	0.000	-.117	-.088	-13.30	0.000	-.143	-.104	-15.04	0.000	-.138	-.103	-14.38	0.000	-.126	-.094	-13.32	0.000
Is Chicano/Latino? (1=Yes, 0=No)	-.117	-.084	-10.11	0.000	-.125	-.070	-10.58	0.000	-.126	-.069	-10.83	0.000	-.141	-.076	-11.75	0.000	-.133	-.069	-10.50	0.000	-.112	-.055	-8.31	0.000	-.122	-.050	-8.53	0.000	-.105	-.052	-7.43	0.000
Is Other Ethnicity? (1=Yes, 0=No)	-.012	-.003	-0.52	0.603	-.019	-.004	-0.75	0.452	-.007	-.001	-0.27	0.790	-.031	-.006	-1.22	0.222	-.041	-.009	-1.70	0.089	.003	.000	0.06	0.376	-.018	-.004	-.88	0.468	-.007	-.001	-0.24	0.807
Ethnicity Is Not Reported? (1=Yes, 0=No)	-.030	-.008	-1.87	0.062	-.035	-.013	-2.47	0.014	-.035	-.013	-2.52	0.012	-.030	-.011	-2.10	0.035	-.024	-.009	-1.70	0.089	-.046	-.017	-3.14	0.002	-.007	-.003	-.45	0.654	-.054	-.027	-4.45	0.000
Is American Indian/Alaskan? (1=Yes, 0=No)	-.033	-.004	-0.74	0.457	-.124	-.014	-2.71	0.007	-.149	-.016	-3.25	0.001	-.041	-.005	-0.95	0.338	-.141	-.017	-3.31	0.001	-.061	-.007	-1.31	0.191	-.052	-.006	-1.06	0.291	-.064	-.010	-1.87	0.062
Is Foreign Citizen? (1=Yes, 0=No)	.035	.004	0.87	0.382	.053	.008	1.74	0.082	.168	.024	4.85	0.000	.214	.028	5.71	0.000	.091	.012	2.40	0.016	.131	.018	3.41	0.001	.252	.035	6.31	0.000	.353	.045	8.00	0.000
State Rank on API (1-10, no API = 0)	.024	.094	14.61	0.000	.016	.068	9.78	0.000	.019	.078	11.31	0.000	.019	.080	11.66	0.000	.021	.087	12.53	0.000	.017	.068	10.06	0.000	.016	.069	9.41	0.000	.011	.043	6.17	0.000
School Does not Have API? (1=Yes, 0=No)	-.042	-.025	-4.98	0.000	-.038	-.023	-4.39	0.000	-.024	-.015	-2.83	0.005	.001	.000	0.07	0.941	-.012	-.007	-1.33	0.184	-.005	-.003	-0.48	0.642	-.013	-.008	-1.37	0.172	-.001	-.001	-0.14	0.891

University of California, Office of the President

Table 5: REGRESSIONS PREDICTING UC GPA AFTER 2 YEARS

	Fall 2004 Entrants N=27025		Fall 2003 Entrants N=28,933		Fall 2002 Entrants N=30,715		Fall 2001 Entrants N=27,132		Fall 2000 Entrants N=25,528		Fall 1999 Entrants N=24,299		Fall 1998 Entrants N=23,256	
	R	R-Sq	R	R-Sq	R	R-Sq	R	R-Sq	R	R-Sq	R	R-Sq	R	R-Sq
	0.564	0.307	0.561	0.315	0.558	0.311	0.548	0.300	0.540	0.291	0.516	0.266	0.509	0.259

Variables in Model	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p
Intercept	.006		0.14	0.892	.053		1.21	0.225	.155		3.66	0.000	.128		2.95	0.003	.135		3.34	0.001	.348		8.41	0.000	.256		5.86	0.000
Is from ACSI High School? (1=Yes, 0=No)	**-.005**	**-.018**	**-3.38**	**0.001**	**-.007**	**-.016**	**-3.14**	**0.002**	**-.111**	**-.020**	**-4.00**	**0.000**	**-.171**	**-.029**	**-5.59**	**0.000**	**-.110**	**-.020**	**-3.65**	**0.000**	**-.072**	**-.012**	**-2.13**	**0.034**	**-.160**	**-.023**	**-3.88**	**0.000**
Semesters of A Courses (History-Soc. Stud)	.006	.019	3.19	0.001	.001	.003	0.64	0.525	.006	.018	3.08	0.002	.006	.017	2.85	0.004	.000	.000	0.01	0.994	.002	.007	1.09	0.278	.004	.014	2.05	0.039
Semesters of B Courses (English)	.007	.017	2.77	0.006	.010	.030	3.60	0.000	.009	.021	3.63	0.000	.010	.021	3.61	0.000	.009	.020	3.28	0.001	.006	.015	2.61	0.009	.009	.023	3.26	0.001
Semesters of C Courses (Math)	-.004	-.015	-2.59	0.010	-.006	-.022	-3.84	0.000	-.007	-.030	-4.86	0.000	-.006	-.023	-3.85	0.000	-.012	-.042	-6.67	0.000	-.008	-.035	-4.75	0.000	-.011	-.042	-6.65	0.000
Semesters of D Courses (Science)	-.007	-.027	-4.56	0.000	-.010	-.036	-6.42	0.000	-.007	-.030	-5.16	0.000	-.010	-.040	-6.75	0.000	-.009	-.034	-5.64	0.000	-.013	-.053	-7.77	0.000	-.012	-.048	-6.96	0.000
Semesters of E Courses (Language)	.007	.030	5.44	0.000	.008	.036	6.62	0.000	.006	.027	4.83	0.000	.005	.023	4.05	0.000	.005	.023	3.85	0.000	.006	.030	4.61	0.000	.006	.029	4.39	0.000
Semesters of F Courses (Electives or VPA)	.003	.019	3.53	0.000	.004	.022	4.42	0.000	.003	.024	4.65	0.000	.002	.019	3.57	0.000	.002	.016	2.99	0.004	.003	.023	4.05	0.000	.000	.004	.68	0.496
High School GPA (Weighted, Capped)	.447	.313	45.99	0.000	.446	.319	49.02	0.000	.415	.297	45.06	0.000	.427	.302	46.36	0.000	.431	.296	48.52	0.000	.410	.285	44.95	0.000	.432	.297	45.26	0.000
Highest of SAT I Total or ACT	.000	.135	8.91	0.000	.000	.087	7.64	0.000	.000	.062	7.78	0.000	.000	.107	9.85	0.000	.000	.087	7.42	0.000	.000	.054	4.35	0.000	.000	.055	4.41	0.000
SAT II Writing (with Mean Subs for Missing)	.001	.130	14.69	0.000	.001	.132	15.65	0.000	.001	.143	16.26	0.000	.001	.123	13.84	0.000	.001	.120	13.71	0.000	.001	.134	13.44	0.000	.001	.117	12.50	0.000
SAT II Math (with Mean Subs)	.000	.005	0.57	0.570	.000	.011	1.26	0.209	.000	-.005	-0.57	0.571	.000	-.016	-1.69	0.093	.000	.016	1.75	0.080	.000	.021	2.18	0.030	.000	.012	1.23	0.220
SAT II Third Test (with Mean Subs)	.000	.082	12.36	0.000	.000	.086	13.31	0.000	.000	.086	13.21	0.000	.000	.097	14.60	0.000	.000	.087	12.61	0.000	.000	.095	13.39	0.000	.001	.108	14.70	0.000
Semesters of Honors Courses Taken	-.007	-.069	-10.76	0.000	-.006	-.053	-8.73	0.000	-.005	-.050	-8.47	0.000	-.005	-.051	-9.29	0.000	Variable not available prior to Fall 2001											
ELC - Is Eligible in Local Context? (1=Yes)	.007	.030	4.82	0.000	.006	.028	4.68	0.000	.048	.027	5.10	0.000	.041	.030	5.16	0.000	Not applicable: ELC program begins in Fall 2001											
Parent Income (with Mean Subs for Missing)	.000	.001	0.19	0.852	.000	.021	3.93	0.000	.000	.016	2.85	0.004	.000	.008	1.46	0.145	.000	.012	2.10	0.036	.000	.014	2.36	0.018	.000	.022	3.66	0.000
Missing Parent Income? (1=Yes, 0=No)	.009	.008	1.32	0.187	.009	.007	1.32	0.188	.028	.021	3.88	0.000	.009	.006	1.16	0.247	.009	.007	1.15	0.248	.007	.005	0.74	0.461	.016	.011	1.66	0.097
Highest Years of Parent Ed (with Mean Sub)	.006	.039	5.91	0.000	.007	.040	6.24	0.000	.005	.033	5.05	0.000	.006	.029	4.43	0.000	.007	.044	6.48	0.000	.005	.027	3.88	0.000	.006	.032	4.57	0.000
Missing Parent Education? (1=Yes, 0=No)	.022	.009	1.58	0.113	.055	.018	3.63	0.000	-.011	-.004	-0.75	0.452	.005	.003	0.57	0.566	.018	.007	1.19	0.234	.015	.006	0.89	0.372	.005	.002	.34	0.733
First Language Spoken (1=English, 3=Other)	.003	.004	0.61	0.539	.004	.005	0.83	0.405	.002	.003	0.49	0.621	-.002	-.002	-0.35	0.716	-.004	-.005	-0.84	0.400	-.002	-.002	-0.32	0.752	-.004	-.005	-.76	0.447
Number of Outreach Programs	-.005	-.012	-1.63	0.103	-.016	-.022	-3.06	0.002	-.007	-.010	-1.29	0.196	-.001	-.002	-0.23	0.819	-.006	-.010	-1.26	0.202	-.016	-.022	-2.38	0.017	-.017	-.021	-2.31	0.021
Participate in Federal TRIO Program?	.035	.010	1.87	0.062	.019	.006	1.16	0.245	.022	.007	1.31	0.189	.047	.016	2.64	0.008	.041	.013	2.14	0.032	-.007	-.002	-0.35	0.725	.038	.012	1.87	0.061
Participate in UC Sponsored Outreach?	-.025	-.017	-2.37	0.018	-.016	-.009	-1.33	0.184	-.035	-.021	-2.86	0.004	-.042	-.024	-3.19	0.001	-.017	-.009	-1.18	0.238	-.017	-.009	-1.06	0.288	.000	.000	-.02	0.983
Is Female? (1=Yes, 0=No)	.088	.082	14.76	0.000	.084	.077	14.51	0.000	.118	.109	20.45	0.000	.118	.110	20.02	0.000	.134	.122	21.33	0.000	.127	.118	19.61	0.000	.110	.101	16.34	0.000
Is African American (1=Yes, 0=No)	-.061	-.019	-3.52	0.000	-.090	-.029	-5.64	0.000	-.085	-.027	-5.14	0.000	-.087	-.027	-5.03	0.000	-.118	-.037	-6.57	0.000	-.108	-.033	-5.65	0.000	-.076	-.023	-3.84	0.000
Is Asian? (1=Yes, 0=No)	-.110	-.102	-14.98	0.000	-.117	-.107	-16.34	0.000	-.110	-.101	-15.25	0.000	-.107	-.098	-14.47	0.000	-.126	-.113	-16.03	0.000	-.117	-.107	-14.57	0.000	-.109	-.097	-13.51	0.000
Is Chicano/Latino? (1=Yes, 0=No)	-.117	-.076	-11.32	0.000	-.125	-.080	-12.43	0.000	-.123	-.077	-11.96	0.000	-.114	-.071	-10.76	0.000	-.103	-.062	-9.15	0.000	-.109	-.066	-9.39	0.000	-.114	-.066	-9.30	0.000
Is Other Ethnicity? (1=Yes, 0=No)	-.028	-.007	-1.33	0.182	.002	.000	0.08	0.938	-.052	-.012	-2.37	0.018	-.044	-.011	-2.12	0.034	-.001	.000	-0.04	0.971	-.033	-.008	-1.50	0.135	-.031	-.007	-1.21	0.225
Ethnicity Is Not Reported? (1=Yes, 0=No)	-.030	-.013	-2.48	0.013	-.023	-.013	-2.54	0.011	-.019	-.009	-1.55	0.121	-.023	-.011	-1.94	0.052	-.029	-.014	-2.39	0.017	-.003	-.001	-0.24	0.813	-.036	-.022	-3.43	0.001
Is American Indian/Alaskan? (1=Yes, 0=No)	-.104	-.013	-2.60	0.009	-.145	-.018	-3.75	0.000	-.046	-.006	-1.24	0.215	-.081	-.011	-2.17	0.030	-.005	-.001	-0.14	0.891	-.036	-.001	-0.13	0.894	-.062	-.009	-1.60	0.110
Is Foreign Citizen? (1=Yes, 0=No)	.029	.006	1.10	0.273	.139	.023	4.70	0.000	.226	.035	7.03	0.000	.062	.010	2.88	0.004	.157	.026	4.77	0.000	.201	.033	5.92	0.000	.343	.051	8.74	0.000
State Rank on API (1-10, no API = 9)	.014	.067	9.79	0.000	.016	.075	11.25	0.000	.014	.069	9.90	0.000	.016	.077	10.93	0.000	.011	.055	8.00	0.000	.013	.061	8.70	0.000	.009	.043	5.98	0.000
School Does not Have API? (1=Yes, 0=No)	-.034	-.018	-3.27	0.001	-.028	-.021	-3.86	0.000	.002	.002	0.30	0.763	-.004	-.003	-0.47	0.636	-.002	-.001	-0.21	0.831	-.011	-.008	-1.30	0.192	.001	.001	.12	0.901

Table 6: LOGISTIC REGRESSIONS PREDICTING DROPOUT (LEAVE WITH GPA < 2.0) AFTER 1 OR 2 YEARS

	Fall 2005 Entrants (1 Year) N=30,840				Fall 2004 Entrants (2 Years) N=28,852				Fall 2003 Entrants (2 Years) N=31,614				Fall 2002 Entrants (2 Years) N=30,548				Fall 2001 Entrants (2 Years) N=29,107				Fall 2000 Entrants (2 Years) N=27,473				Fall 1999 Entrants (2 Years) N=26,011			
	Nagelkerke				Nagelkerke				Nagelkerke				Nagelkerke				Nagelkerke				Nagelkerke				Nagelkerke			
	R	R-Sq			R	R-Sq			R	R-Sq			R	R-Sq			R	R-Sq			R	R-Sq			R	R-Sq		
	0.362	0.131			0.377	0.142			0.386	0.148			0.377	0.142			0.359	0.151			0.361	0.130			0.341	0.116		
Variables in Model	B	Wald	p	Odds	B	Wald	p	Odds	B	Wald	p	Odds	B	Wald	p	Odds	B	Wald	p	Odds	B	Wald	p	Odds	B	Wald	p	Odds
Is from ACSI High School? (1=Yes, 0=No)	.541	3.722	.054	1.717	.508	6.122	.013	1.657	.410	2.271	.132	1.507	.407	2.211	.137	1.503	.599	5.124	.024	1.820	.454	2.960	.134	1.574	.076	.043	.835	1.081
Semesters of A Courses (History-Soc. Stud.)	-.021	1.102	.294	0.979	-.005	.081	.776	0.995	.043	5.226	.022	1.044	.010	.383	.536	1.010	.012	.293	.589	1.012	.011	.333	.564	1.011	.021	1.059	.303	1.022
Semesters of B Courses (English)	.008	2.419	.120	1.008	.002	12.626	.000	1.008	.016	.387	.548	1.016	.020	.701	.403	1.020	-.023	.668	.413	0.977	-.012	.174	.677	0.988	-.023	.718	.389	0.977
Semesters of C Courses (Math)	-.006	.095	.758	0.994	-.032	3.453	.063	0.969	-.022	1.994	.158	0.978	-.005	.057	.847	0.995	.015	.946	.330	1.015	.027	2.578	.108	1.027	.004	.043	.835	1.004
Semesters of D Courses (Science)	-.010	.303	.582	0.990	-.026	2.532	.112	0.974	.025	2.827	.105	1.025	-.010	.410	.522	0.990	.050	4.788	.029	1.051	.004	.050	.824	1.004	.032	3.300	.069	1.033
Semesters of E Courses (Language)	-.062	12.922	.000	0.940	-.048	9.728	.002	0.953	-.026	3.761	.052	0.974	-.014	6.062	.014	0.987	-.003	.6.052	.014	0.997	-.002	5.178	.023	0.998	-.007	5.464	.019	0.994
Semesters of F Courses (Electives or VPA)	.011	1.516	.218	1.011	.013	2.786	.095	1.013	.015	2.946	.086	1.015	.000	.000	.994	1.000	.011	2.777	.096	1.011	-.010	1.815	.178	0.990	.009	1.595	.208	1.009
High School GPA (Weighted, Capped)	-1.558	244.116	.000	0.210	-1.745	406.253	.000	0.175	-1.674	419.938	.000	0.187	-1.524	344.270	.000	0.218	-1.642	387.228	.000	0.194	-1.596	326.936	.000	0.203	-1.440	263.810	.000	0.237
Highest of SAT I Total or ACT	.000	1.804	.316	1.000	-.001	1.923	.166	0.999	.000	1.952	.174	1.000	.000	.603	.457	1.000	-.001	4.809	.028	0.999	-.001	5.407	.095	0.999	.000	.834	.361	1.000
SAT II Writing (with Mean Subs for Missing)	-.003	23.858	.000	0.997	-.002	16.534	.000	0.998	-.002	10.995	.001	0.998	-.002	16.284	.000	0.998	-.001	7.983	.005	0.999	-.002	10.359	.001	0.998	.000	.245	.621	1.000
SAT II Math (with Mean Subs)	-.001	5.244	.022	0.999	.001	1.724	.189	1.001	.000	.013	.910	1.000	.000	.029	.783	1.000	.001	2.989	.084	1.001	.001	1.153	.283	1.001	.000	.028	.867	1.000
SAT II Third Test (with Mean Subs)	.000	1.140	.286	1.000	-.001	4.640	.031	0.999	-.001	14.441	.000	0.999	-.001	71.635	.001	0.999	.000	1.180	.277	1.000	-.001	10.518	.001	0.999	-.002	23.557	.000	0.998
Semesters of Honors Courses Taken	-.003	.178	.676	0.997	.015	4.698	.030	1.015	.036	.464	.482	1.005	.003	.299	.585	1.003	-.007	1.227	.268	0.993	Variable not available prior to Fall 2001							
ELC - Is Eligible in Local Context? (1=Yes)	-.009	.008	.929	0.991	-.148	2.212	.137	0.864	.036	.146	.702	1.035	-.274	.628	.428	0.938	-.326	9.836	.002	0.722	Not applicable: ELC program begins in Fall 2001							
Parent Income (with Mean Subs for Missing)	.000	6.872	.009	1.000	.000	4.004	.045	1.000	.000	9.802	.002	1.000	.000	11.180	.001	1.000	.000	4.228	.040	1.000	.000	6.033	.026	1.000	.000	10.882	.001	1.000
Missing Parent Income? (1=Yes, 0=No)	-.029	.058	.794	0.975	-.069	1.251	.263	0.918	.014	.036	.849	1.014	-.084	1.127	.289	0.920	-.203	5.460	.019	0.816	.070	.573	.412	1.072	-.256	4.889	.027	0.774
Highest Years of Parent Ed (with Mean Sub)	-.030	8.417	.004	0.995	-.027	6.036	.014	0.974	-.023	4.909	.026	0.978	-.021	4.142	.042	0.979	-.030	8.094	.004	0.970	-.045	18.518	.000	0.956	-.031	6.529	.011	0.969
Missing Parent Education? (1=Yes, 0=No)	.001	.000	.994	1.001	.069	.199	.656	1.072	-.055	.316	.574	0.909	.137	.788	.375	1.147	.032	.022	.857	1.032	-.141	.736	.391	0.869	-.006	.001	.978	0.994
First Language Spoken (1=English, 3=Other)	-.051	1.252	.267	0.941	-.043	.914	.339	0.958	.036	.019	.889	1.036	-.056	1.466	.222	0.945	-.087	3.364	.067	0.917	-.087	1.906	.167	0.916	.020	.146	.703	1.021
Number of Outreach Programs	-.057	.912	.340	0.945	.026	.027	.869	1.026	.049	1.057	.304	1.050	.022	.198	.657	1.022	-.052	.852	.356	0.949	.045	.524	.457	1.046	.085	2.092	.148	1.087
Participate in Federal TRIO Program?	.172	1.295	.255	1.188	-.097	.283	.652	0.908	-.085	.449	.503	0.917	-.054	.181	.671	0.947	-.198	1.838	.177	0.820	-.082	.304	.581	0.921	.106	.490	.484	1.111
Participate in UC Sponsored Outreach?	.155	1.432	.232	1.168	.087	.640	.424	1.090	-.028	.080	.778	0.972	.017	.025	.874	1.017	.203	3.238	.072	1.225	-.024	.036	.849	0.977	.138	.987	.321	1.148
Is Female? (1=Yes, 0=No)	-.307	92.807	.000	0.736	-.356	96.208	.000	0.892	-.476	66.147	.000	0.620	-.586	102.403	.000	0.556	-.602	97.284	.000	0.548	-.532	70.921	.000	0.588	-.777	122.184	.000	0.460
Is African American (1=Yes, 0=No)	.000	.000	.998	1.000	.107	.501	.479	1.113	.167	2.025	.155	1.205	-.000	.000	.998	0.914	.145	1.030	.313	1.156	.155	1.102	.294	1.168	.016	.010	.918	1.016
Is Asian? (1=Yes, 0=No)	.078	.880	.410	1.081	.285	9.737	.002	1.330	.256	10.286	.001	1.291	.240	8.907	.003	1.271	.232	7.743	.005	1.261	.316	13.565	.000	1.371	.290	10.009	.002	1.336
Is Chicano/Latino? (1=Yes, 0=No)	.102	.930	.362	1.108	.538	29.454	.000	1.713	.497	18.716	.000	1.502	.445	21.811	.000	1.557	.374	13.956	.000	1.454	.317	9.070	.003	1.372	.266	.595	.459	1.062
Is Other Ethnicity? (1=Yes, 0=No)	.087	.128	.722	1.091	.130	.323	.570	1.139	.294	2.038	.154	1.342	-.193	.590	.446	0.824	-.031	.017	.896	0.970	-.109	.185	.694	0.896	-.364	1.559	.212	0.702
Ethnicity is Not Reported? (1=Yes, 0=No)	-.203	1.027	.311	0.816	.079	.277	.599	1.082	-.009	.004	.947	0.991	.260	3.916	.048	1.297	.083	.254	.652	1.086	.177	1.627	.202	1.194	.095	.384	.535	1.100
Is American Indian/Alaskan? (1=Yes, 0=No)	-.421	.505	.477	0.657	.411	1.258	.262	1.508	.280	.564	.453	1.324	.228	.416	.520	1.256	.606	5.569	.018	2.238	.247	.430	.512	1.280	.725	4.374	.036	2.066
Is Foreign Citizen? (1=Yes, 0=No)	.237	.531	.466	1.267	.124	.215	.643	1.132	-.563	2.159	.142	0.569	-.251	.362	.537	0.778	-.196	.275	.600	0.822	.309	.627	.514	1.232	-.569	1.289	.260	0.555
State Rank on API (1-10, no API = 0)	-.116	98.828	.000	0.890	-.099	26.378	.000	0.964	-.113	29.929	.000	0.893	-.097	54.349	.000	0.908	-.130	92.125	.000	0.878	-.083	39.482	.000	0.920	-.060	30.513	.000	0.933
School Does not Have API? (1=Yes, 0=No)	.330	12.404	.000	1.391	.245	9.051	.003	1.277	.214	7.265	.007	1.239	.116	1.941	.164	1.126	.253	7.274	.007	1.288	.141	2.435	.119	1.152	.166	3.150	.076	1.181
Constant	6.350	175.292	.000	572.750	8.113	230.822	.000	451.568	8.171	226.707	.000	476.894	6.056	229.845	.000	426.573	6.109	215.044	.000	448.972	6.294	206.145	.000	541.066	5.180	151.637	.000	174.231

University of California, Office of the President

Table 7: REGRESSIONS PREDICTING TIME-TO-DEGREE AND GPA AT GRADUATION

	NUMBER OF ENROLLED TERMS TO COMPLETE DEGREE												UC GPA FOR THOSE WHO GRADUATE											
	Fall 2000 Entrants N=22,008				Fall 1999 Entrants N=21,710				Fall 1998 Entrants N=20,699				Fall 2000 Entrants N=21,734				Fall 1999 Entrants N=21,151				Fall 1998 Entrants N=20,074			
	R 0.336	R-Sq 0.094			R 0.297	R-Sq 0.088			R 0.304	R-Sq 0.093			R 0.531	R-Sq 0.282			R 0.524	R-Sq 0.275			R 0.525	R-Sq 0.277		
Variables in Model	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p
Intercept	15.663		104.61	0.000	15.520		103.90	0.000	15.766		100.32	0.000	.922		24.50	0.000	.984		27.08	0.000	.920		24.36	0.000
Is from AC@ High School? (1=Yes, 0=No)	.095	.006	0.90	0.367	**.344**	.019	2.82	**0.005**	**.634**	.030	4.39	**0.000**	**-.078**	-.017	**-2.86**	**0.003**	-.043	-.009	-1.46	0.144	-.101	-.018	-2.93	**0.003**
Semesters of A Courses (History-Soc. Stud)	-.011	-.011	-1.50	0.134	-.018	-.021	-2.39	0.010	-.011	-.013	-1.55	0.057	.002	.005	0.84	0.399	.004	.016	2.28	0.023	.004	.016	2.24	0.025
Semesters of B Courses (English)	-.016	-.011	-1.49	0.135	.004	.003	0.36	0.696	-.017	-.014	-1.70	0.089	.011	.030	4.46	0.000	.007	.024	3.14	0.002	.009	.029	3.83	0.000
Semesters of C Courses (Math)	.002	.002	0.30	0.766	-.002	-.003	-0.34	0.732	.019	.025	2.97	0.003	-.011	-.046	-6.71	0.000	-.007	-.037	-4.83	0.000	-.010	-.048	-6.22	0.000
Semesters of D Courses (Science)	.015	.020	2.68	0.008	.022	.031	3.77	0.000	.029	.037	4.62	0.000	-.009	-.042	-6.36	0.000	-.013	-.066	-9.02	0.000	-.010	-.051	-6.93	0.000
Semesters of E Courses (Language)	-.005	-.007	-1.01	0.313	-.007	-.012	-1.55	0.122	-.018	-.029	-3.56	0.000	.002	.014	2.17	0.030	.004	.027	3.92	0.000	.005	.030	4.28	0.000
Semesters of F Courses (Electives or VPA)	.000	.000	-0.06	0.953	.001	.002	0.25	0.801	-.003	-.007	-1.10	0.272	.002	.016	2.57	0.010	.002	.018	3.00	0.003	.001	.010	1.63	0.104
High School GPA (Weighted, Capped)	-.355	-.084	-11.18	0.000	-.352	-.080	-10.59	0.000	-.388	-.087	-11.13	0.000	.320	.265	40.11	0.000	.320	.271	39.79	0.000	.330	.277	39.31	0.000
Highest of SAT I Total or ACT	.000	-.048	-3.36	0.001	.000	.013	0.86	0.390	.000	-.009	-0.61	0.544	.000	.112	8.71	0.000	.000	.086	6.50	0.000	.000	.088	6.59	0.000
SAT II Writing (with Mean Subs for Missing)	-.001	-.060	-5.56	0.000	-.002	-.099	-9.14	0.000	-.001	-.065	-5.91	0.000	.001	.144	14.99	0.000	.001	.155	15.79	0.000	.001	.152	15.25	0.000
SAT II Math (with Mean Subs)	.001	.046	4.00	0.000	.000	.020	1.75	0.080	.000	.014	1.20	0.230	.000	-.016	-1.57	0.116	.000	-.015	-1.45	0.148	.000	-.019	-1.71	0.088
SAT II Third Test (with Mean Subs)	.000	-.016	-1.89	0.059	.000	-.018	-2.18	0.029	.000	-.031	-3.63	0.000	.000	.090	11.94	0.000	.000	.097	12.75	0.000	.000	.111	14.16	0.000
Parent Income (with Mean Subs for Missing)	.000	-.020	-2.84	0.005	.000	-.025	-3.60	0.000	.000	-.031	-4.31	0.000	.000	.003	0.47	0.641	.000	.004	0.70	0.483	.000	.016	2.49	0.013
Missing Parent Income? (1=Yes, 0=No)	-.071	-.018	-2.57	0.010	-.026	-.006	-0.78	0.434	-.052	-.012	-1.55	0.121	.005	.004	0.69	0.488	-.006	-.007	-1.03	0.304	.002	.002	.27	0.785
Highest Years of Parent Ed (with Mean Sub)	-.025	-.052	-6.30	0.000	-.021	-.042	-5.07	0.000	-.018	-.034	-4.14	0.000	.006	.041	5.50	0.000	.003	.019	2.55	0.011	.002	.018	2.35	0.019
Missing Parent Education? (1=Yes, 0=No)	.056	.007	1.06	0.287	-.135	-.017	-2.30	0.022	-.013	-.002	-0.25	0.801	.002	.001	0.18	0.860	.024	.011	1.71	0.086	-.002	-.001	-.17	0.867
First Language Spoken (1=English, 3=Other)	.013	.006	0.76	0.446	.028	.013	1.55	0.122	.038	.017	2.15	0.032	-.001	-.003	-0.33	0.739	-.001	-.001	-0.16	0.872	.003	.004	.60	0.547
Number of Outreach Programs	.029	.012	1.23	0.219	.011	.004	0.39	0.694	.066	.026	2.44	0.015	.000	.000	0.03	0.974	-.011	-.016	-1.64	0.102	-.017	-.025	-2.56	0.010
Participate in Federal TRIO Program?	.016	.002	0.24	0.809	.219	.026	3.24	0.001	-.038	-.004	-0.52	0.605	.040	.015	2.36	0.018	.006	.003	0.36	0.717	.012	.005	.66	0.509
Participate in UC Sponsored Outreach?	.148	.027	2.96	0.003	.080	.013	1.37	0.171	.033	.005	0.54	0.590	-.031	-.020	-2.47	0.013	.002	.001	0.12	0.904	.005	.003	.33	0.740
Is Female? (1=Yes, 0=No)	-.488	-.156	-22.35	0.000	-.484	-.148	-20.93	0.000	-.553	-.155	-22.93	0.000	.105	.115	19.05	0.000	.116	.133	20.71	0.000	.101	.114	17.46	0.000
Is African American (1=Yes, 0=No)	.563	.057	8.40	0.000	.478	.046	6.72	0.000	.567	.054	7.68	0.000	-.094	-.034	-6.60	0.000	-.083	-.030	-4.80	0.000	-.057	-.020	-3.21	0.001
Is Asian? (1=Yes, 0=No)	.243	.077	8.99	0.000	.226	.068	7.93	0.000	.255	.075	8.87	0.000	-.119	-.134	-17.49	0.000	-.110	-.125	-16.05	0.000	-.111	-.124	-16.25	0.000
Is Chicano/Latino? (1=Yes, 0=No)	.399	.062	10.06	0.000	.434	.064	10.38	0.000	.460	.066	10.36	0.000	-.091	-.067	-9.09	0.000	-.082	-.060	-8.16	0.000	-.067	-.061	-8.19	0.000
Is Other Ethnicity? (1=Yes, 0=No)	.134	.012	1.77	0.077	.078	.007	1.02	0.309	.401	.030	4.47	0.000	-.007	-.002	-0.35	0.716	-.028	-.009	-1.48	0.138	-.036	-.010	-1.88	0.060
Ethnicity is Not Reported? (1=Yes, 0=No)	.095	.016	2.26	0.024	.159	.024	3.54	0.000	.170	.034	4.58	0.000	-.032	-.015	-3.02	0.003	-.022	-.013	-2.02	0.043	-.035	-.027	-3.92	0.000
Is American Indian/Alaskan? (1=Yes, 0=No)	.415	.019	3.01	0.003	.166	.007	1.05	0.295	.308	.014	2.15	0.031	-.003	.000	-0.07	0.942	.017	.003	0.44	0.660	-.034	-.005	-1.00	0.318
Is Foreign Citizen? (1=Yes, 0=No)	-.795	-.045	-5.54	0.000	-.816	-.044	-5.66	0.000	-1.221	-.059	-8.58	0.000	.138	.028	4.85	0.000	.194	.040	6.63	0.000	.318	.059	9.60	0.000
State Rank on API (1-10, no API = 9)	-.031	-.052	-6.19	0.000	-.033	-.051	-6.27	0.000	-.028	-.042	-5.06	0.000	.005	.029	3.94	0.000	.009	.051	6.85	0.000	.004	.026	3.43	0.001
School Does not Have API? (1=Yes, 0=No)	.003	.001	0.09	0.927	-.021	-.005	-0.75	0.456	-.013	-.003	-0.44	0.666	.019	.017	2.73	0.006	.001	.001	0.09	0.925	.016	.015	2.23	0.025

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Table 8a: REGRESSIONS PREDICTING SAT I AND SAT II SCORES: FALL 2005 APPLICANTS

	SAT I (Verbal + Math) N=54,194				SAT II Writing N=51,845				SAT II Math N=52,035				SAT II - Third Score N=50,797				SAT II (W + M + 3rd) N=50,661			
	R	R-Sq			R	R-Sq			R	R-Sq			R	R-Sq			R	R-Sq		
	0.744	0.553			0.664	0.441			0.723	0.523			0.531	0.282			0.691	0.478		
Variables in Model	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p
Intercept	467.74		66.52	0.000	197.73		43.32	0.000	135.85		31.47	0.000	199.35		33.73	0.000	529.45		45.67	0.000
Is from ACSI High School? (1=Yes, 0=No)	**-13.33**	**-.008**	**-2.58**	**0.010**	**-17.64**	**-.018**	**-5.37**	**0.000**	**-18.04**	**-.018**	**-5.76**	**0.000**	**-17.68**	**-.016**	**-4.18**	**0.000**	**-51.63**	**-.020**	**-6.19**	**0.000**
Semesters of A Courses (History-Soc. Stud)	-2.30	-.030	-8.41	0.000	-.81	-.018	-4.56	0.000	-2.76	-.061	-16.42	0.000	-2.16	-.043	-9.38	0.000	-5.66	-.049	-12.61	0.000
Semesters of B Courses (English)	-9.21	-.082	-22.91	0.000	-4.30	-.067	-16.63	0.000	-4.68	-.075	-19.95	0.000	-1.19	-.017	-3.56	0.000	-10.24	-.062	-15.62	0.000
Semesters of C Courses (Math)	4.99	.060	17.36	0.000	.09	.002	0.51	0.611	6.53	.136	37.33	0.000	.01	.000	0.02	0.982	5.70	.055	14.36	0.000
Semesters of D Courses (Science)	3.40	.046	12.80	0.000	.26	.009	2.14	0.032	3.53	.083	21.96	0.000	2.38	.051	10.87	0.000	6.44	.060	15.01	0.000
Semesters of E Courses (Language)	4.55	.061	16.60	0.000	4.27	.102	27.37	0.000	1.01	.023	6.82	0.000	1.46	.031	7.38	0.000	5.60	.061	16.78	0.000
Semesters of F Courses (Electives or VPA)	1.05	.022	7.39	0.000	.86	.032	9.44	0.000	.24	.009	2.80	0.005	1.06	.036	9.10	0.000	2.26	.033	9.86	0.000
High School GPA (Weighted, Capped)	103.95	.254	69.07	0.000	56.36	.242	57.63	0.000	69.92	.292	75.53	0.000	54.47	.206	42.97	0.000	181.14	.299	72.90	0.000
Semesters of Honors Courses Taken	4.93	.221	59.64	0.000	2.92	.234	55.17	0.000	2.01	.157	40.12	0.000	2.64	.188	36.81	0.000	7.50	.232	56.12	0.000
ELC - Is Eligible in Local Context? (1=Yes)	27.56	.056	16.49	0.000	15.98	.059	15.21	0.000	14.23	.051	14.30	0.000	12.99	.043	9.60	0.000	42.92	.062	16.26	0.000
Parent Income (with Mean Subs for Missing)	.00	.054	16.90	0.000	.00	.049	13.39	0.000	.00	.049	14.66	0.000	.00	.030	7.22	0.000	.00	.052	14.49	0.000
Highest Years of Parent Ed (with Mean Sub)	10.43	.187	50.71	0.000	5.57	.180	42.68	0.000	4.32	.136	34.97	0.000	2.93	.084	17.44	0.000	12.75	.160	38.74	0.000
First Language Spoken (1=English, 3=Other)	-7.17	-.029	-8.18	0.000	-6.31	-.046	-11.39	0.000	10.12	.073	19.30	0.000	41.78	.274	58.56	0.000	45.70	.131	32.76	0.000
Number of Outreach Programs	-4.64	-.017	-4.24	0.000	-1.17	-.008	-1.70	0.089	-2.74	-.018	-4.20	0.000	1.94	.012	2.19	0.029	-2.45	-.007	-1.42	0.156
Participate in Federal TRIO Program?	-12.89	-.012	-3.77	0.000	-7.76	-.013	-3.58	0.000	-1.08	-.002	-0.53	0.596	6.60	.010	2.35	0.019	-3.56	-.002	-0.65	0.516
Participate in UC Sponsored Outeach?	-11.72	-.016	-4.31	0.000	-4.79	-.012	-2.80	0.005	-7.03	-.017	-4.34	0.000	-6.59	-.015	-2.98	0.003	-17.93	-.018	-4.16	0.000
Is Female? (1=Yes, 0=No)	-58.24	-.154	-52.43	0.000	1.51	.007	2.14	0.032	-43.62	-.203	-65.30	0.000	-15.51	-.066	-17.06	0.000	-57.49	-.106	-32.29	0.000
Is African American (1=Yes, 0=No)	-73.02	-.081	-26.42	0.000	-30.45	-.059	-16.73	0.000	-26.48	-.050	-15.42	0.000	-36.15	-.061	-15.28	0.000	-91.45	-.067	-19.67	0.000
Is Asian? (1=Yes, 0=No)	1.84	.005	1.25	0.213	-13.13	-.060	-14.06	0.000	20.22	.090	22.87	0.000	-11.74	-.046	-9.77	0.000	-4.50	-.008	-1.91	0.056
Is Chicano/Latino? (1=Yes, 0=No)	-47.25	-.101	-26.32	0.000	-17.20	-.066	-15.02	0.000	-22.76	-.085	-20.98	0.000	51.38	.174	34.76	0.000	11.34	.017	3.91	0.000
Is Other Ethnicity? (1=Yes, 0=No)	-47.74	-.035	-11.90	0.000	-21.68	-.029	-8.50	0.000	-21.26	-.027	-8.75	0.000	-46.61	-.055	-14.32	0.000	-87.96	-.045	-13.58	0.000
Ethnicity is Not Reported? (1=Yes, 0=No)	19.66	.018	6.17	0.000	8.53	.014	4.23	0.000	12.64	.021	6.61	0.000	12.13	.018	4.69	0.000	34.91	.023	6.86	0.000
Is American Indian/Alaskan? (1=Yes, 0=No)	2.25	.001	0.33	0.742	1.34	.001	0.30	0.762	1.17	.001	0.28	0.779	7.21	.005	1.25	0.212	9.48	.003	0.84	0.398
Is Foreign Citizen? (1=Yes, 0=No)	35.61	.029	9.20	0.000	-7.45	-.011	-3.02	0.003	65.11	.094	27.89	0.000	55.51	.072	17.33	0.000	113.70	.065	18.28	0.000
State Rank on API (1-10, no API = 9)	17.89	.247	66.24	0.000	8.37	.207	48.58	0.000	10.14	.244	62.20	0.000	7.63	.167	34.27	0.000	26.09	.249	59.89	0.000
School Does not Have API? (1=Yes, 0=No)	-15.00	-.036	-10.87	0.000	-4.44	-.019	-5.07	0.000	-19.26	-.082	-23.23	0.000	-9.11	-.035	-8.07	0.000	-31.86	-.054	-14.43	0.000

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Table 8b: REGRESSIONS PREDICTING SAT I AND SAT II SCORES: FALL 2004 APPLICANTS

	SAT I (Verbal + Math) N=51,086				SAT II Writing N=49,847				SAT II Math N=49,826				SAT II - Third Score N=48,665				SAT II (W + M + 3rd) N=48,910			
	R	R-Sq			R	R-Sq			R	R-Sq			R	R-Sq			R	R-Sq		
	0.742	0.551			0.662	0.438			0.718	0.516			0.543	0.294			0.692	0.479		
Variables in Model	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p
Intercept	483.97		66.90	0.000	214.65		45.70	0.000	163.60		36.80	0.000	198.84		33.00	0.000	583.03		49.47	0.000
Is from ACSI High School? (1=Yes, 0=No)	**-6.90**	**-.005**	**-1.62**	**0.104**	**-13.24**	**-.013**	**-3.76**	**0.000**	**-10.23**	**-.010**	**-3.06**	**0.002**	**-6.54**	**-.006**	**-1.98**	**0.048**	**-32.64**	**-.012**	**-3.70**	**0.000**
Semesters of A Courses (History-Soc. Stud)	-3.30	-.041	-10.36	0.000	-1.05	-.022	-5.08	0.000	-3.68	-.078	-18.90	0.000	-1.93	-.037	-7.28	0.000	-6.60	-.055	-12.77	0.000
Semesters of B Courses (English)	-8.88	-.061	-20.14	0.000	-4.39	-.069	-15.39	0.000	-5.04	-.078	-18.70	0.000	-1.34	-.019	-3.64	0.000	-10.67	-.065	-14.94	0.000
Semesters of C Courses (Math)	2.67	.033	8.79	0.000	-1.06	-.023	-5.43	0.000	5.07	.108	27.59	0.000	-.81	-.015	-3.25	0.001	3.21	.027	6.63	0.000
Semesters of D Courses (Science)	3.63	.053	14.00	0.000	.47	.012	2.67	0.008	3.88	.094	23.53	0.000	2.16	.047	9.72	0.000	6.55	.063	15.05	0.000
Semesters of E Courses (Language)	4.77	.065	18.68	0.000	4.42	.106	27.22	0.000	.93	.022	6.09	0.000	1.39	.030	6.67	0.000	6.52	.061	16.12	0.000
Semesters of F Courses (Electives or VPA)	1.19	.025	7.89	0.000	.72	.027	7.56	0.000	.28	.010	3.06	0.002	.81	.027	6.61	0.000	1.77	.026	7.42	0.000
High School GPA (Weighted, Capped)	104.68	.257	67.26	0.000	55.28	.236	54.75	0.000	70.00	.293	73.29	0.000	56.65	.214	43.82	0.000	180.82	.298	71.43	0.000
Semesters of Honors Courses Taken	5.28	.254	65.38	0.000	2.99	.255	57.95	0.000	2.26	.189	46.36	0.000	2.78	.210	42.13	0.000	7.94	.263	61.63	0.000
ELC - Is Eligible in Local Context? (1=Yes)	25.65	.052	14.85	0.000	15.45	.056	14.12	0.000	12.20	.043	11.80	0.000	12.26	.040	8.81	0.000	39.49	.056	14.52	0.000
Parent Income (with Mean Subs for Missing)	.00	.045	13.70	0.000	.00	.044	11.73	0.000	.00	.047	13.41	0.000	.00	.027	6.23	0.000	.00	.049	13.31	0.000
Highest Years of Parent Ed (with Mean Sub)	10.22	.186	48.28	0.000	5.78	.167	42.83	0.000	3.98	.126	31.24	0.000	2.61	.061	16.32	0.000	12.46	.157	37.01	0.000
First Language Spoken (1=English, 3=Other)	-6.11	-.026	-5.92	0.000	-7.18	-.054	-12.79	0.000	9.52	.070	17.97	0.000	39.89	.265	55.63	0.000	42.44	.124	30.37	0.000
Number of Outreach Programs	-5.83	-.023	-5.46	0.000	-1.22	-.009	-1.80	0.071	-3.56	-.025	-5.56	0.000	1.40	.009	1.63	0.104	-3.99	-.011	-2.37	0.018
Participate in Federal TRIO Program?	-9.38	-.008	-2.52	0.012	-2.53	-.004	-1.07	0.286	2.48	.004	1.10	0.270	16.09	.022	5.29	0.000	16.01	.010	2.70	0.007
Participate in UC Sponsored Outeach?	-21.92	-.036	-8.87	0.000	-11.14	-.033	-7.11	0.000	-10.07	-.029	-6.80	0.000	-8.02	-.021	-4.01	0.000	-29.07	-.033	-7.44	0.000
Is Female? (1=Yes, 0=No)	-57.67	-.154	-50.47	0.000	.75	.004	1.05	0.294	-44.16	-.206	-64.22	0.000	-16.22	-.068	-17.48	0.000	-59.51	-.110	-32.78	0.000
Is African American (1=Yes, 0=No)	-66.10	-.077	-24.25	0.000	-25.95	-.053	-14.73	0.000	-31.07	-.060	-17.96	0.000	-36.40	-.063	-15.44	0.000	-94.59	-.072	-20.54	0.000
Is Asian? (1=Yes, 0=No)	5.71	.015	3.75	0.000	-11.79	-.054	-12.21	0.000	21.65	.099	23.94	0.000	-9.38	-.038	-7.63	0.000	.13	.000	0.05	0.957
Is Chicano/Latino? (1=Yes, 0=No)	-36.59	-.077	-19.46	0.000	-11.15	-.042	-9.29	0.000	-20.88	-.077	-18.39	0.000	56.21	.186	36.70	0.000	24.87	.036	8.28	0.000
Is Other Ethnicity? (1=Yes, 0=No)	-37.41	-.028	-9.24	0.000	-16.58	-.022	-6.41	0.000	-14.84	-.020	-6.09	0.000	-43.22	-.051	-13.13	0.000	-75.84	-.040	-11.78	0.000
Ethnicity Is Not Reported? (1=Yes, 0=No)	17.90	.020	6.36	0.000	8.38	.016	4.68	0.000	10.99	.021	6.50	0.000	12.72	.022	5.59	0.000	30.03	.023	6.74	0.000
Is American Indian/Alaskan? (1=Yes, 0=No)	-19.19	-.008	-2.84	0.004	-14.46	-.011	-3.30	0.001	-13.94	-.011	-3.37	0.001	-11.35	-.008	-2.04	0.041	-43.45	-.013	-3.96	0.000
Is Foreign Citizen? (1=Yes, 0=No)	32.81	.024	7.78	0.000	-9.36	-.012	-3.49	0.000	50.00	.064	19.72	0.000	66.35	.076	19.06	0.000	107.56	.055	16.06	0.000
State Rank on API (1-10, no API = 9)	17.51	.249	54.46	0.000	8.46	.213	48.72	0.000	9.80	.243	59.74	0.000	8.42	.188	37.92	0.000	26.66	.261	61.45	0.000
School Does not Have API? (1=Yes, 0=No)	-20.83	-.051	-14.74	0.000	-9.79	-.043	-10.88	0.000	-24.36	-.104	-28.67	0.000	-15.30	-.059	-13.34	0.000	-47.88	-.061	-21.37	0.000

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Table 8c: REGRESSIONS PREDICTING SAT I AND SAT II SCORES: FALL 2003 APPLICANTS

	SAT I (Verbal + Math) N=57,174		SAT II Writing N=55,783		SAT II Math N=55,664		SAT II - Third Score N=54,006		SAT II (W + M + 3rd) N=54,494	
	R	R-Sq	R	R-Sq	R	R-Sq	R	R-Sq	R	R-Sq
	0.745	0.555	0.657	0.432	0.728	0.530	0.540	0.291	0.695	0.482

Variables in Model	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p
Intercept	490.38		70.96	0.000	223.04		49.29	0.000	154.67		36.74	0.000	210.67		36.62	0.000	593.22		52.44	0.000
Is from ACSI High School? (1=Yes, 0=No)	**-16.65**	**-.009**	**-3.18**	**0.001**	**-17.16**	**-.016**	**-5.05**	**0.000**	**-12.63**	**-.012**	**-3.99**	**0.000**	**-7.37**	**-.006**	**-1.70**	**0.089**	**-35.50**	**-.013**	**-4.17**	**0.000**
Semesters of A Courses (History-Soc. Stud)	-3.13	-.033	-9.61	0.000	-1.02	-.019	-4.80	0.000	-3.34	-.061	-16.94	0.000	-1.63	-.027	-5.90	0.000	-5.85	-.042	-10.96	0.000
Semesters of B Courses (English)	-6.02	-.065	-18.60	0.000	-4.20	-.059	-14.99	0.000	-5.05	-.070	-19.39	0.000	-2.49	-.032	-6.98	0.000	-11.56	-.063	-16.49	0.000
Semesters of C Courses (Math)	7.25	.089	25.08	0.000	.52	.011	2.77	0.006	8.35	.177	47.93	0.000	.65	.013	2.74	0.006	9.44	.079	20.23	0.000
Semesters of D Courses (Science)	2.58	.035	9.77	0.000	-.13	-.003	-0.75	0.453	2.67	.062	16.85	0.000	2.45	.052	11.35	0.000	5.10	.047	12.02	0.000
Semesters of E Courses (Language)	4.10	.061	18.43	0.000	4.29	.113	29.93	0.000	1.13	.029	8.47	0.000	2.34	.055	12.69	0.000	7.51	.077	21.12	0.000
Semesters of F Courses (Electives or VPA)	1.20	.023	8.01	0.000	.81	.028	8.38	0.000	.21	.007	2.32	0.021	1.06	.033	8.70	0.000	2.09	.028	8.69	0.000
High School GPA (Weighted, Capped)	102.32	.254	70.93	0.000	52.50	.227	55.47	0.000	67.26	.283	76.30	0.000	52.76	.202	43.69	0.000	171.14	.295	72.32	0.000
Semesters of Honors Courses Taken	4.99	.233	64.04	0.000	3.04	.250	60.30	0.000	1.91	.154	40.76	0.000	2.74	.202	42.91	0.000	7.67	.245	61.03	0.000
ELC - Is Eligible in Local Context? (1=Yes)	28.77	.056	17.07	0.000	18.16	.063	16.80	0.000	13.65	.046	13.59	0.000	13.61	.042	9.97	0.000	45.34	.051	16.94	0.000
Parent Income (with Mean Subs for Missing)	.00	.045	14.42	0.000	.00	.038	10.78	0.000	.00	.047	14.46	0.000	.00	.024	5.91	0.000	.00	.044	12.80	0.000
Highest Years of Parent Ed (with Mean Sub)	9.15	.164	45.29	0.000	5.09	.162	38.96	0.000	3.97	.123	32.69	0.000	2.39	.068	14.44	0.000	11.45	.141	35.28	0.000
First Language Spoken (1=English, 3=Other)	-12.16	-.049	-14.09	0.000	-8.82	-.064	-15.87	0.000	8.76	.062	16.99	0.000	40.98	.265	58.20	0.000	40.99	.115	29.72	0.000
Number of Outreach Programs	-10.30	-.040	-9.76	0.000	-4.18	-.029	-6.14	0.000	-4.06	-.027	-6.42	0.000	-2.22	-.014	-2.57	0.010	-10.62	-.028	-6.28	0.000
Participate in Federal TRIO Program?	-16.28	-.016	-5.05	0.000	-6.73	-.012	-3.21	0.001	-.16	.000	-0.08	0.934	12.45	.019	4.68	0.000	5.02	.004	1.16	0.247
Participate in UC Sponsored Outeach?	-12.48	-.021	-5.32	0.000	-7.42	-.022	-4.90	0.000	-7.55	-.022	-5.39	0.000	-1.66	-.004	-0.86	0.387	-17.50	-.020	-4.64	0.000
Is Female? (1=Yes, 0=No)	-60.05	-.160	-55.85	0.000	1.08	.005	1.56	0.119	-44.63	-.207	-69.17	0.000	-17.30	-.073	-19.67	0.000	-60.64	-.111	-35.16	0.000
Is African American (1=Yes, 0=No)	-66.85	-.075	-25.12	0.000	-26.54	-.052	-15.11	0.000	-32.21	-.061	-19.64	0.000	-35.69	-.062	-15.95	0.000	-95.41	-.071	-21.66	0.000
Is Asian? (1=Yes, 0=No)	3.62	.009	2.51	0.012	-10.85	-.049	-11.71	0.000	18.74	.083	21.76	0.000	-11.36	-.046	-9.69	0.000	-3.57	-.006	-1.56	0.120
Is Chicano/Latino? (1=Yes, 0=No)	-36.72	-.075	-20.42	0.000	-11.05	-.040	-9.49	0.000	-20.60	-.072	-19.01	0.000	57.33	.164	38.80	0.000	25.82	.036	8.90	0.000
Is Other Ethnicity? (1=Yes, 0=No)	-37.12	-.027	-9.33	0.000	-11.61	-.015	-4.51	0.000	-16.61	-.021	-7.02	0.000	-34.63	-.039	-10.57	0.000	-61.53	-.030	-9.57	0.000
Ethnicity Is Not Reported? (1=Yes, 0=No)	6.61	.008	2.87	0.004	4.46	.010	2.92	0.004	4.68	.010	3.29	0.001	7.64	.015	3.94	0.000	16.70	.014	4.40	0.000
Is American Indian/Alaskan? (1=Yes, 0=No)	1.40	.001	0.21	0.830	2.26	.002	0.53	0.596	-2.41	-.002	-0.61	0.543	.56	.000	0.10	0.919	.02	.000	0.00	0.998
Is Foreign Citizen? (1=Yes, 0=No)	32.27	.025	8.29	0.000	-2.58	-.003	-1.02	0.309	46.86	.062	19.95	0.000	44.62	.053	13.71	0.000	89.95	.047	14.25	0.000
State Rank on API (1-10, no API = 9)	16.52	.234	62.86	0.000	8.14	.203	47.70	0.000	9.75	.237	61.39	0.000	7.46	.166	34.36	0.000	25.25	.244	59.37	0.000
School Does not Have API? (1=Yes, 0=No)	-14.00	-.034	-10.55	0.000	-5.40	-.023	-6.33	0.000	-20.95	-.089	-26.38	0.000	-9.29	-.036	-8.58	0.000	-34.95	-.059	-16.48	0.000

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Table 8d: REGRESSIONS PREDICTING SAT I AND SAT II SCORES: FALL 2002 APPLICANTS

	SAT I (Verbal + Math) N=55,074				SAT II Writing N=54,159				SAT II Math N=53,831				SAT II - Third Score N=51,386				SAT II (W + M + 3rd) N=52,597			
	R	R-Sq			R	R-Sq			R	R-Sq			R	R-Sq			R	R-Sq		
	0.739	0.546			0.663	0.440			0.720	0.518			0.534	0.286			0.693	0.481		
Variables in Model	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p
Intercept	491.78		73.12	0.000	223.95		52.27	0.000	177.44		43.74	0.000	205.44		36.26	0.000	604.73		55.00	0.000
Is from ACSI High School? (1=Yes, 0=No)	**-25.62**	**-.013**	**-4.51**	**0.000**	**-14.66**	**-.013**	**-4.08**	**0.000**	**-19.65**	**-.018**	**-5.78**	**0.000**	**-11.94**	**-.010**	**-2.54**	**0.011**	**-49.60**	**-.017**	**-5.43**	**0.000**
Semesters of A Courses (History-Soc. Stud)	-3.42	-.040	-10.93	0.000	-1.08	-.022	-5.43	0.000	-3.31	-.066	-17.76	0.000	-1.75	-.032	-6.74	0.000	-5.90	-.047	-11.72	0.000
Semesters of B Courses (English)	-7.36	-.068	-17.90	0.000	-3.29	-.053	-12.60	0.000	-5.05	-.081	-20.51	0.000	-2.35	-.033	-6.81	0.000	-10.75	-.066	-16.12	0.000
Semesters of C Courses (Math)	6.09	.082	22.14	0.000	.41	.010	2.39	0.017	7.26	.169	44.00	0.000	.60	.016	3.42	0.001	8.90	.080	19.55	0.000
Semesters of D Courses (Science)	3.42	.050	13.51	0.000	.22	.006	1.39	0.164	2.97	.076	19.68	0.000	2.49	.057	11.93	0.000	5.61	.056	13.81	0.000
Semesters of E Courses (Language)	3.53	.054	16.17	0.000	3.82	.104	27.78	0.000	1.06	.028	8.10	0.000	2.13	.051	11.74	0.000	6.95	.072	19.76	0.000
Semesters of F Courses (Electives or VPA)	.42	.012	3.83	0.000	.40	.020	5.72	0.000	-.33	-.016	-5.11	0.000	.07	.003	0.75	0.455	.22	.004	1.27	0.204
High School GPA (Weighted, Capped)	98.44	.245	68.14	0.000	52.79	.235	57.40	0.000	62.59	.273	71.92	0.000	49.00	.191	40.18	0.000	165.07	.280	70.16	0.000
Semesters of Honors Courses Taken	4.91	.232	64.32	0.000	2.84	.239	59.20	0.000	2.01	.167	44.31	0.000	2.67	.199	42.29	0.000	7.43	.240	60.64	0.000
ELC - Is Eligible in Local Context? (1=Yes)	35.42	.069	20.64	0.000	21.87	.077	20.39	0.000	17.68	.061	17.50	0.000	15.23	.048	10.96	0.000	54.90	.075	20.29	0.000
Parent Income (with Mean Subs for Missing)	.00	.041	12.69	0.000	.00	.040	11.00	0.000	.00	.034	10.28	0.000	.00	.021	5.15	0.000	.00	.036	10.35	0.000
Highest Years of Parent Ed (with Mean Sub)	8.99	.160	43.07	0.000	4.81	.153	36.72	0.000	3.76	.118	30.46	0.000	2.72	.077	15.91	0.000	11.33	.139	34.13	0.000
First Language Spoken (1=English, 3=Other)	-12.37	-.050	-13.86	0.000	-10.78	-.078	-19.27	0.000	8.84	.063	16.79	0.000	40.28	.261	55.28	0.000	37.37	.105	26.44	0.000
Number of Outreach Programs	-4.74	-.018	-4.27	0.000	-.87	-.006	-1.24	0.214	-1.46	-.010	-2.23	0.026	-1.08	-.007	-1.19	0.233	-2.89	-.008	-1.64	0.101
Participate in Federal TRIO Program?	-13.41	-.013	-4.08	0.000	-3.65	-.005	-1.77	0.076	-1.15	-.002	-0.59	0.553	16.56	.026	6.09	0.000	8.01	.005	1.53	0.126
Participate in UC Sponsored Outeach?	-16.97	-.027	-6.77	0.000	-9.78	-.028	-6.23	0.000	-10.84	-.031	-7.32	0.000	-1.62	-.004	-0.79	0.431	-24.06	-.027	-6.04	0.000
Is Female? (1=Yes, 0=No)	-55.27	-.148	-50.41	0.000	.91	.004	1.32	0.186	-42.38	-.200	-65.32	0.000	-16.18	-.069	-18.00	0.000	-58.04	-.107	-33.26	0.000
Is African American (1=Yes, 0=No)	-58.61	-.064	-20.79	0.000	-24.09	-.046	-13.37	0.000	-24.60	-.046	-14.41	0.000	-31.95	-.052	-13.22	0.000	-79.94	-.057	-17.16	0.000
Is Asian? (1=Yes, 0=No)	9.83	.025	6.70	0.000	-10.63	-.049	-11.56	0.000	20.84	.095	24.05	0.000	-10.53	-.043	-8.81	0.000	-.34	-.001	-0.15	0.883
Is Chicano/Latino? (1=Yes, 0=No)	-35.36	-.070	-18.82	0.000	-12.03	-.042	-10.17	0.000	-21.10	-.073	-18.92	0.000	54.62	.169	35.29	0.000	19.25	.026	6.40	0.000
Is Other Ethnicity? (1=Yes, 0=No)	-39.64	-.029	-9.73	0.000	-16.13	-.021	-6.27	0.000	-16.92	-.021	-6.95	0.000	-41.57	-.047	-12.37	0.000	-73.37	-.036	-11.20	0.000
Ethnicity is Not Reported? (1=Yes, 0=No)	16.30	.019	6.21	0.000	5.01	.010	3.04	0.002	11.29	.023	7.29	0.000	10.56	.019	4.92	0.000	25.77	.020	6.19	0.000
Is American Indian/Alaskan? (1=Yes, 0=No)	-5.14	-.002	-0.79	0.431	-6.69	-.005	-1.63	0.102	-.70	-.001	-0.18	0.857	-.08	.000	-0.02	0.988	-8.37	-.003	-0.80	0.422
Is Foreign Citizen? (1=Yes, 0=No)	26.95	.020	6.55	0.000	-7.29	-.009	-2.74	0.006	43.90	.056	17.64	0.000	59.34	.067	16.96	0.000	98.50	.048	14.55	0.000
State Rank on API (1-10, no API = 9)	18.12	.259	66.84	0.000	8.82	.225	51.66	0.000	10.18	.255	63.11	0.000	9.11	.204	40.70	0.000	27.88	.272	64.10	0.000
School Does not Have API? (1=Yes, 0=No)	-2.27	-.006	-1.64	0.101	-1.09	-.005	-1.26	0.209	-10.92	-.047	-13.35	0.000	-1.99	-.008	-1.76	0.079	-12.51	-.021	-5.70	0.000

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Table 8e: REGRESSIONS PREDICTING SAT I AND SAT II SCORES: FALL 2001 APPLICANTS

	SAT I (Verbal + Math) N=45,866		SAT II Writing N=45,165		SAT II Math N=45,692		SAT II - Third Score N=42,556		SAT II (W + M + 3rd) N=43,741	
	R	R-Sq	R	R-Sq	R	R-Sq	R	R-Sq	R	R-Sq
	0.752	0.565	0.677	0.458	0.728	0.530	0.528	0.279	0.699	0.489

Variables in Model	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p
Intercept	417.88		58.11	0.000	187.79		40.71	0.000	134.13		31.11	0.000	166.10		27.25	0.000	491.41		41.69	0.000
Is from ACSI High School? (1=Yes, 0=No)	**-45.11**	**-.024**	**-7.76**	**0.000**	**-28.31**	**-.025**	**-6.99**	**0.000**	**-32.10**	**-.028**	**-8.48**	**0.000**	**-22.95**	**-.018**	**-4.36**	**0.000**	**-83.35**	**-.028**	**-8.03**	**0.000**
Semesters of A Courses (History-Soc. Stud)	-1.05	-.010	-2.56	0.010	.85	.014	3.25	0.001	-2.91	-.049	-12.02	0.000	-.94	-.014	-2.76	0.006	-2.99	-.020	-4.54	0.000
Semesters of B Courses (English)	-11.42	-.094	-22.63	0.000	-4.89	-.070	-15.17	0.000	-7.01	-.101	-23.32	0.000	-3.13	-.041	-7.42	0.000	-15.24	-.084	-18.56	0.000
Semesters of C Courses (Math)	8.85	.110	27.91	0.000	1.49	.033	7.44	0.000	8.92	.196	47.57	0.000	1.92	.038	7.30	0.000	13.21	.110	25.20	0.000
Semesters of D Courses (Science)	3.57	.044	11.40	0.000	.05	.001	0.25	0.801	3.14	.069	17.02	0.000	2.47	.049	9.53	0.000	5.30	.045	10.55	0.000
Semesters of E Courses (Language)	4.30	.065	17.71	0.000	4.43	.119	28.94	0.000	1.01	.027	7.10	0.000	2.65	.064	13.16	0.000	7.94	.083	20.36	0.000
Semesters of F Courses (Electives or VPA)	1.02	.026	8.01	0.000	.59	.031	8.50	0.000	.05	.002	0.60	0.546	.49	.020	4.63	0.000	1.29	.023	6.27	0.000
High School GPA (Weighted, Capped)	119.03	.295	78.67	0.000	61.76	.268	63.76	0.000	73.63	.319	81.20	0.000	59.58	.230	46.28	0.000	195.07	.326	78.66	0.000
Semesters of Honors Courses Taken	3.42	.184	51.38	0.000	1.96	.187	46.65	0.000	1.45	.140	37.19	0.000	1.77	.155	32.52	0.000	5.09	.190	47.98	0.000
ELC: - Is Eligible in Local Context? (1=Yes)	33.94	.063	17.90	0.000	22.25	.073	18.64	0.000	14.43	.048	13.01	0.000	16.80	.051	10.87	0.000	53.41	.069	17.79	0.000
Parent Income (with Mean Subs for Missing)	.00	.022	6.79	0.000	.00	.016	4.35	0.000	.00	.018	5.30	0.000	.00	.005	1.20	0.230	.00	.016	4.41	0.000
Highest Years of Parent Ed (with Mean Sub)	9.54	.171	42.11	0.000	4.96	.158	34.66	0.000	4.08	.131	30.57	0.000	2.75	.080	14.81	0.000	11.58	.148	32.77	0.000
First Language Spoken (1=English, 3=Other)	-12.24	-.049	-12.57	0.000	-10.47	-.075	-17.02	0.000	6.71	.063	15.22	0.000	38.54	.252	48.01	0.000	34.20	.096	22.01	0.000
Number of Outreach Programs	-6.18	-.023	-4.64	0.000	-1.35	-.009	-1.60	0.109	-3.27	-.022	-4.17	0.000	-2.23	-.014	-2.03	0.043	-6.33	-.016	-2.98	0.003
Participate in Federal TRIO Program?	-13.18	-.013	-3.72	0.000	-5.38	-.010	-2.40	0.017	-1.40	-.003	-0.67	0.504	10.57	.017	3.56	0.000	1.45	.001	0.25	0.799
Participate in UC Sponsored Outreach?	-8.31	-.014	-2.95	0.003	-8.49	-.025	-4.78	0.000	-5.16	-.015	-3.11	0.002	-9.15	-.024	-3.93	0.000	-22.01	-.025	-4.88	0.000
Is Female? (1=Yes, 0=No)	-50.14	-.130	-41.34	0.000	4.60	.021	5.99	0.000	-36.29	-.176	-53.57	0.000	-11.97	-.050	-11.92	0.000	-44.67	-.080	-22.98	0.000
Is African American (1=Yes, 0=No)	-58.69	-.065	-19.52	0.000	-25.06	-.048	-12.98	0.000	-23.12	-.044	-12.73	0.000	-26.25	-.044	-10.09	0.000	-75.40	-.055	-15.14	0.000
Is Asian? (1=Yes, 0=No)	4.63	.012	2.85	0.004	-13.12	-.058	-12.81	0.000	18.61	.083	19.53	0.000	-10.85	-.044	-8.13	0.000	-4.37	-.008	-1.69	0.091
Is Chicano/Latino? (1=Yes, 0=No)	-34.73	-.069	-16.99	0.000	-12.04	-.042	-9.31	0.000	-20.89	-.074	-17.31	0.000	55.08	.175	32.46	0.000	19.29	.026	5.87	0.000
Is Other Ethnicity? (1=Yes, 0=No)	-35.67	-.026	-8.32	0.000	-10.15	-.013	-3.74	0.000	-16.61	-.022	-6.55	0.000	-32.92	-.039	-9.26	0.000	-89.15	-.030	-8.58	0.000
Ethnicity Is Not Reported? (1=Yes, 0=No)	23.02	.026	8.11	0.000	12.61	.025	7.05	0.000	11.52	.023	6.93	0.000	18.75	.035	8.06	0.000	42.66	.034	9.48	0.000
Is American Indian/Alaskan? (1=Yes, 0=No)	3.64	.002	0.49	0.623	-3.51	-.003	-0.76	0.448	-1.71	-.001	-0.39	0.695	-1.61	-.001	-0.26	0.791	-8.61	-.002	-0.73	0.466
Is Foreign Citizen? (1=Yes, 0=No)	9.48	.007	2.15	0.032	-18.10	-.023	-6.37	0.000	39.30	.050	14.94	0.000	52.32	.070	16.53	0.000	86.74	.042	12.02	0.000
State Rank on API (1-10, no API = 9)	16.91	.240	57.55	0.000	7.79	.197	41.81	0.000	9.43	.239	54.25	0.000	8.30	.189	33.82	0.000	25.29	.248	53.39	0.000
School Does not Have API? (1=Yes, 0=No)	8.40	.021	5.70	0.000	7.18	.031	7.71	0.000	-3.89	-.017	-4.49	0.000	2.37	.009	1.95	0.051	6.65	.011	2.83	0.005

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Table 9: REGRESSIONS PREDICTING UCUES FACTOR SCORES - Upper Division Students - Spring 2006

FACTOR SCORE:	Factor 1a* N=18,500		Factor 2b* N=19,450		Factor 4c* N=17,995		Factor 6* N=19,668		Factor 7a* N=19,421		Factor 8* N=19,538	
	R	R-Sq	R	R-Sq	R	R-Sq	R	R-Sq	R	R-Sq	R	R-Sq
	0.186	0.035	0.319	0.101	0.260	0.068	0.134	0.018	0.123	0.015	0.153	0.023

Variables in Model	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p	B	Beta	t	p
Intercept	4.215		19.68	0.000	6.937		35.23	0.000	5.897		26.21	0.000	#####		14.15	0.000	#####		24.02	0.000	5.342		25.39	0.000
Is from ACSI High School? (1=Yes, 0=No)	**-.397**	**-.020**	**-2.75**	**0.006**	-.204	-.011	-1.52	0.129	**-.319**	**-.016**	**-2.15**	**0.032**	**-.293**	**-.014**	**-1.96**	**0.050**	**-.258**	**-.013**	**-1.74**	**0.082**	**-.317**	**-.016**	**-2.22**	**0.026**
Number of Semesters of A-F Courses	.001	.004	0.44	0.660	.007	.032	4.23	0.000	.005	.019	2.47	0.014	.017	.065	8.31	0.000	.005	.022	2.79	0.005	.010	.040	5.11	0.000
High School GPA (Weighted, Capped)	.197	.038	3.92	0.000	-.189	-.037	-4.10	0.000	.413	.076	7.95	0.000	.199	.036	3.85	0.000	.105	.020	2.06	0.039	.256	.049	5.19	0.000
Highest of SAT I Total or ACT	.000	.002	0.12	0.907	-.001	-.084	-5.23	0.000	-.004	-.296	-17.67	0.000	-.001	-.057	-4.02	0.000	-.002	-.122	-7.26	0.000	-.001	-.098	-5.88	0.000
SAT II Writing (with mean substitution)	.001	.074	5.87	0.000	.002	.117	9.86	0.000	.001	.044	3.59	0.000	.001	.039	3.19	0.001	-.001	-.028	-2.25	0.024	.000	-.020	-1.59	0.112
SAT II Math (with mean substitution)	-.001	-.070	-5.28	0.000	-.003	-.146	-11.75	0.000	.000	-.019	-1.46	0.139	-.001	-.027	-2.08	0.038	.001	.063	4.87	0.000	.001	.035	2.68	0.007
SAT II Third Test (with mean substitution)	.001	.032	3.39	0.001	-.001	-.052	-6.91	0.000	.000	-.008	-0.84	0.400	.000	.021	2.28	0.023	-.001	-.032	-3.47	0.001	-.001	-.028	-3.02	0.003
Semesters of Honors Courses Taken	-.008	-.023	-2.59	0.010	.008	.024	2.91	0.004	.004	.010	1.21	0.228	.010	.027	3.17	0.002	.008	.022	2.56	0.010	.011	.031	3.62	0.000
ELC - Is Eligible in Local Context? (1=Yes)	.024	.006	0.63	0.530	-.066	-.016	-1.66	0.052	.004	.001	0.11	0.916	.072	.016	1.84	0.066	.046	.010	1.19	0.234	.016	.004	0.43	0.666
Parent Income (with Mean Subs for Missing)	.000	.012	1.45	0.148	.000	-.009	-1.19	0.233	.000	.016	2.26	0.023	.000	-.007	-0.94	0.348	.000	.024	3.05	0.002	.000	-.046	-5.88	0.000
Missing Parent Income? (1=Yes, 0=No)	.002	.000	0.05	0.961	-.005	-.001	-0.15	0.878	.014	.003	0.38	0.706	-.046	-.009	-1.22	0.221	.066	.014	1.79	0.073	-.130	-.027	-3.66	0.000
Highest Years of Parent Ed (with Mean Sub)	.003	.006	0.61	0.543	.038	.066	7.51	0.000	.042	.068	7.30	0.000	.039	.063	6.96	0.000	.036	.059	6.41	0.000	-.007	-.012	-1.26	0.200
Missing Parent Education? (1=Yes, 0=No)	-.124	-.012	-1.63	0.102	-.070	-.007	-1.00	0.318	-.075	-.007	-0.94	0.346	.031	.003	0.39	0.695	-.084	-.008	-1.09	0.278	-.097	-.010	-1.31	0.191
First Language Spoken (1=English, 3=Other)	-.138	-.057	-6.06	0.000	-.067	-.028	-3.18	0.001	.123	.048	5.10	0.000	.156	.061	6.63	0.000	.033	.013	1.41	0.159	.047	.019	2.08	0.038
Number of Outreach Programs	-.025	-.009	-0.87	0.382	.047	.018	1.80	0.071	.093	.033	3.08	0.002	.140	.050	4.76	0.000	.114	.042	3.90	0.000	.076	.029	2.70	0.007
Participate in Federal TRIO Program?	-.015	-.001	-0.17	0.866	-.069	-.006	-0.83	0.405	-.037	-.003	-0.39	0.694	-.023	-.002	-0.25	0.804	-.082	-.007	-0.89	0.373	-.199	-.018	-2.24	0.025
Participate in UC Sponsored Outreach?	-.047	-.008	-0.74	0.459	-.052	-.009	-0.88	0.379	-.069	-.011	-1.03	0.304	-.150	-.023	-2.27	0.023	-.055	-.009	-0.84	0.398	.038	.006	0.61	0.542
Is Female? (1=Yes, 0=No)	.266	.069	8.96	0.000	.544	.145	19.82	0.000	.258	.066	8.59	0.000	-.010	-.002	-0.33	0.742	-.155	-.039	-5.10	0.000	-.033	-.009	-1.14	0.254
Is African American (1=Yes, 0=No)	-.088	-.007	-0.92	0.357	.074	.006	0.85	0.395	-.070	-.005	-0.71	0.475	.077	.006	0.76	0.433	.244	.019	2.51	0.012	.166	.013	1.77	0.077
Is Asian? (1=Yes, 0=No)	-.290	-.077	-8.09	0.000	-.253	-.066	-7.63	0.000	.066	.017	1.75	0.080	-.140	-.035	-3.77	0.000	-.010	-.003	-0.27	0.789	-.110	-.029	-3.11	0.002
Is Chicano/Latino? (1=Yes, 0=No)	.167	.026	3.06	0.002	.339	.056	6.72	0.000	.140	.022	2.46	0.014	.002	.000	0.04	0.971	.071	.011	1.26	0.206	.100	.017	1.86	0.063
Is Other Ethnicity/Unknown? (1=Yes, 0=No)	-.124	-.017	-2.17	0.030	-.082	-.011	-1.54	0.123	.064	.008	1.09	0.274	.075	.010	1.27	0.204	.040	.005	0.69	0.491	.043	.006	0.75	0.452
Is Foreign Citizen? (1=Yes, 0=No)	.043	.002	0.27	0.784	-.249	-.012	-1.73	0.083	.262	.012	1.56	0.120	.304	.014	1.91	0.056	.172	.008	1.08	0.282	-.117	-.005	-0.77	0.443
State Rank on API (1-10, no API = 9)	-.032	-.043	-4.39	0.000	.007	.009	0.99	0.321	.055	.072	7.30	0.000	.026	.034	3.54	0.000	.032	.041	4.29	0.000	-.001	-.001	-0.12	0.904
School Does not Have API? (1=Yes, 0=No)	.016	.003	0.42	0.671	-.038	-.008	-1.08	0.279	.031	.006	0.75	0.452	-.018	-.003	-0.45	0.652	-.031	-.006	-0.80	0.425	-.037	-.008	-0.97	0.331

*Factor 1a: Quality of Instruction and Courses in Major
*Factor 2b: Cultural Appreciation and Social Awareness
*Factor 4c: Elevanted Academic Effort
*Factor 6: Research Experiences
*Factor 7a: Collaborative Learning
*Factor 8: Use of Time

ATTACHMENT 2

Attachment 2:

Academic Literacy: Statement on Competencies Expected of Entering Students to California's Public Colleges and Universities (Spring 2002)

This document reports what faculty from all three segments of California's system of higher education think about their students' ability to read, write, and think critically. It echoes the lucid arguments made for literacy in the *Statement of Competencies in English Expected of Freshmen*, which appeared in 1982, but it necessarily revises and updates that earlier document. In the past two decades, California's educational landscape has been swept by substantial changes in pedagogy, advances in technology, and new emphases on critical reading, writing, and thinking across the curriculum. These changes have transformed the field, and they have shaped this report in ways that could not have been foreseen twenty years ago.

Like the earlier report, this document was produced by a faculty task force appointed by the Intersegmental Committee of Academic Senates (ICAS), which is comprised of the Academic Senates of the University of California, the California State University, and the California Community Colleges. Unlike that earlier document, this report is based upon the responses of faculty from many disciplines requiring students to read, write, and think critically. The task force invited faculty who regularly teach introductory or first-year courses to participate in a Web-based interview study that asked the following questions. (A transcription of that survey appears in the appendices.)

- What do they expect of their students' reading, writing, and critical thinking?
- How well are their students prepared for those expectations, and why or why not?
- How do they expect their students to acquire these skills, experiences, or competencies that they are missing at matriculation?

We also asked those faculty to identify other factors that contributed to their students' academic success:

- What attitudes or predispositions—"habits of mind"—facilitate student learning?
- What kinds of technology do faculty use or intend soon to use with their own classes?

This report summarizes responses to these questions and describes patterns that emerged in the answers. It then combines our colleagues' views with research and our collective professional experience to produce specific recommendations that will improve the level of literacy among first-year students in all segments of higher education in our state.

CONTENTS OF THIS REPORT

The statement is divided into three parts, followed by appendices:

- Part I. Academic Literacy: Reading, Writing, and Thinking Critically: discusses expectations and perceived student preparation and provides a rationale for these competencies understood as larger, more holistic "abilities" rather than a list of discrete "skills."

- Part II. Competencies: charts the competencies of Part I and juxtaposes them with comparable competencies noted in the California Language Arts Content Standards and in the California Education Roundtable Content Standards.
- Part III. Strategies for Implementation: offers suggestions for "teaching the processes of learning."

A SELECTION OF SIGNIFICANT FINDINGS AND RECOMMENDATIONS CONTAINED WITHIN THIS STATEMENT ACADEMIC LITERACY ACROSS THE CONTENT AREAS

- We affirm the role of California schools in enhancing democracy, and we believe that literacy skills serve as the foundation for greater equity.
- All the elements of academic literacy—reading, writing, listening, speaking, critical thinking, use of technology, and habits of mind that foster academic success—are expected of entering freshmen across all college disciplines. These competencies should be learned in the content areas in high school. It is, therefore, an institutional obligation to teach them.
- In order to be prepared for college and university courses, students need greater exposure to and instruction in academic literacy than they receive in English classes alone. This need calls for greater coordination of literacy education among subject matter areas within high schools.
- The inseparable skills of critical reading, writing, listening, and thinking depend upon students' ability to postpone judgment and tolerate ambiguity as they honor the dance between passionate assertion and patient inquiry.

- We applaud recent efforts towards collaboration and articulation between high schools and colleges and urge that these efforts be continued and expanded.
- We recommend imaginative and practical professional development as a central component of improving literacy education.

HABITS OF MIND AND CRITICAL THINKING

- The habits of mind expected of students—their curiosity, their daring, their participation in intellectual discussions—are predicated upon their ability to convey their ideas clearly and to listen and respond to divergent views respectfully.
- Faculty expect students to have an appetite to experiment with new ideas, challenge their own beliefs, seek out other points of view, and contribute to intellectual discussions.
- Analytical thinking must be taught, and students must be encouraged to apply those analytical abilities to their own endeavors as well as to the work of others.
- Students should generate critical responses to what they read, see, and hear, and develop a healthy skepticism toward their world.
- Students must assume a measure of responsibility for their own learning, must discern crucial values of the academic community, must seek assistance when they need it, and must advocate for their own learning in diverse situations.
- Self-advocacy is a valuable practice that emerges from the recognition that education is a partnership.

READING AND WRITING CONNECTION

- College faculty report that student reading and writing are behaviors and that, as such, they are interpreted as evidence of attitudes regarding learning.
- Successful students understand that reading and writing are the lifeblood of educated people.
- Students, like the writers whose works they read, should articulate a clear thesis and should identify, evaluate, and use evidence to support or challenge that thesis while being attentive to diction, syntax, and organization.
- Students who need help overcoming their lack of preparation will generally need to engage in practices of self-advocacy, including finding campus instructional resources on their own.

READING

- 83% of faculty say that the lack of analytical reading skills contributes to students' lack of success in a course.
- Faculty respondents concur with the CERT standards which, unlike the California Language Arts Standards, call for students' comprehension of "academic and workplace texts."
- Reading is generally not formally taught after a certain point in students' K-12 education.
- Teachers in all disciplines must help students develop effective critical reading strategies.
- We must teach our students to be active makers of meaning and teach them the strategies all good readers employ: to think critically, to argue, to compare, to

own an idea, and to remember. Reading is a process that requires time and reflection, and that stimulates imagination, analysis, and inquiry.

WRITING

- Only 1/3 of entering college students are sufficiently prepared for the two most frequently assigned writing tasks: analyzing information or arguments and synthesizing information from several sources, according to faculty respondents.
- More than 50% of their students fail to produce papers relatively free of language errors, according to our faculty respondents.
- Faculty judge students' ability to express their thinking clearly, accurately, and compellingly through their writing. College faculty look for evidence in papers that students are stretching their minds, representing others' ideas responsibly, and exploring ideas.
- In college, students may well be asked to complete complex writing tasks across the disciplines with little instruction provided.
- Faculty expect students to reexamine their thesis, to consider and reconsider additional points or arguments, to reshape and reconstruct as they compose, and to submit carefully revised and edited work.
- College faculty assign writing to get to know how students think, to help students engage critically and thoughtfully with course readings, to demonstrate what students understand from lectures, to structure and guide their inquiry, to encourage independent thinking, and to invite them into the on-going intellectual dialogue that characterizes higher education. Writing in college is designed to deepen and extend discourse in the pursuit of knowledge.

- In the last two years of high school, students need to be given instruction in writing in *every* course and to be assigned writing tasks that
    - demand analysis, synthesis, and research;
    - require them to generate ideas for writing by using texts in addition to past experience or observations; and require students to revise to improve focus, support, and organization,
    - and to edit or proofread to eliminate errors in grammar, mechanics, and spelling.
- Implementation of strong writing-across-the-curriculum programs in high schools statewide can help prepare high school students for their writing requirements in college.

LISTENING AND SPEAKING

- Students are expected to speak with a command of English language conventions.
- All students who enter college without having developed essential critical listening skills or who have not had ample practice speaking in large and small groups will find themselves disadvantaged.
- The California English Language Arts Content Standards [on listening and speaking], if regularly addressed and evaluated in the years before high school graduation, would equip entering college students to perform requisite listening and speaking tasks.
- College-level work requires students to be active, discerning listeners in lecture and discussion classes and to make critical distinctions between key points and illustrative examples, just as they must do when they read and write.

ENGLISH LANGUAGE LEARNERS (L2 LEARNERS)

- Language minority students comprise nearly 40% of all K-12 students in California.
- The dominant perception among faculty respondents is that many L2 students are not prepared to meet college-level academic demands.
- Academic English involves dispositions and skills beyond those of conversational fluency. Classification of L2 students as FEP (fluent English proficient) is best determined by assessment of the multiple abilities necessary in academic situations: reading, writing, listening, and speaking.
- "ESL" is faculty short hand for many types of students, regardless of their varying language problems and backgrounds. Yet all second language learners are expected to control the same set of competencies for success as other students upon entering postsecondary institutions.
- To provide appropriate instruction for each individual L2 learner, we must recognize the different subgroups of second language learners, distinguished primarily by such differences as
    - length of residence in the U.S.,
    - 6 years of U.S. schooling, and
    - English language proficiency, both oral and written.
- L2 students who have received most, if not all, of their education in California schools may continue to have special *academic* literacy needs. Thus, specialized college or university instruction in academic English is both desirable and necessary, and additional time may be required to

complete requirements essential for success at the baccalaureate level.

- L2 learners, their peers, parents, teachers, and administrators should come to understand that special language instruction is not remedial. Given this awareness, L2 students will be more likely to further develop academic English through ESL work at the college level.

TECHNOLOGY

- 4 Students' success in college has as much to do with their ability to find information as to recall it.
- While many entering students are familiar with some technological elements (notably e-mail and Web browsing), few demonstrate the crucial ability to evaluate online resources critically.
- Students need to form questioning habits when they read, especially material found on the Internet where students must evaluate materials for clarity, accuracy, precision, relevance, depth, breadth, logic, significance, and fairness.
- Technological skills and students' critical appraisal of them should also be taught across the curriculum.
- Students should enter with basic technological skills that include word-processing, e-mail use, and the fundamentals of Web-based research. All students, therefore, should have regular access to computers.

ATTACHMENT 3

Attachment 3:

Understanding University Success: Standards for Success (2003) - Science and Society

II. Science and Society

A. Successful students understand the scientific enterprise. They:

A.1. understand that science and the theories of science are not absolute and should be questioned and challenged. This includes the ideas that:

• new theories will continue to replace current or older ones.

• scientific theories must stand up to the scrutiny of the entire scientific community.

• acceptable validation includes reproduction and internal consistency.

A.2. know ways in which science and society influence each other. For example, that:

• scientific methods and the knowledge they produce may influence how people think about themselves and their world.

• technology can contribute to the solution of an individual or community problem.

• social and economic forces strongly influence which science and technology programs are pursued, invested in and used.

A.3. understand that science involves different types of work in many different disciplines. For example:

• different disciplines of science approach investigations in different ways, such as using different questions, methods and evidence.

• contributions from different disciplines are often required to complete an investigation.

• when traditional disciplines meet, new branches of science are often formed, such as geophysics and molecular biology.

A.4. know that scientists throughout history have had many difficulties convincing their contemporaries to acknowledge what are now generally accepted scientific ideas.

A.5. understand that a host of perplexing new problems is generated by our society's new powers (e.g., population management, environmental protection and regulation of weapons of mass destruction).

A.6. know that technology is the systematic use of materials, energy, and information to design, build, maintain and operate devices, processes and systems with a goal of serving individual and societal human needs.

A.7. understand that interactions between science and technology have led to refined tools (e.g., precision instruments, measuring techniques, data processors, etc.), and the means for a safer, more comfortable life for more people (e.g., electricity, transportation, medical advances, etc.).

A.8. know that investigations and public communication among scientists must meet certain criteria in order to result in new understanding and methods. For example:

• arguments must be logical and demonstrate consistency between natural phenomena revealed by investigations and the historical body of scientific evidence.

• the methods and procedures used to obtain evidence must be clearly reported and reproducible to enhance opportunities for further investigation.

ATTACHMENT 4

Attachment 4:

Understanding University Success: Standards for Success - Biology (pp. 46-49)

IV. Biology

A. Successful students know the general structure and function of cells. They:

A.1. know that all living systems are composed of cells, which are the fundamental units of life, and that organisms may be unicellular or multicellular.

A.2. know the importance of both water and the element carbon to cells, and further understand that cells have four important types of macromolecules (carbohydrates, lipids, proteins and nucleic acids) that are each different in chemical properties and have specific functions in cells.

A.3. understand that both unity and diversity exist among cells.

A.4. know that while all cells share basic features (e.g., a plasma membrane and genetic material in the form of DNA), there are different types of cells (prokaryotic and eukaryotic).

A.5. know that within multicellular organisms there are different types of cells and that these cells perform different functions for the organism.

A.6. know that different types of organisms (plants versus animals) have different cellular specializations suited for the organism's lifestyle.

A.7. understand the processes of cell division (mitosis and meiosis), particularly as those processes relate to production of new cells and to passing on genetic information between generations.

A.8. know that in eukaryotic cells, the organization of DNA into chromosomes is key to both duplication and distribution of the genetic information to new cells or organisms.

A.9. know that in order to be alive, cells must exchange materials with their environment or with other cells.

A.10. know that cells transform energy (ultimately obtained from the sun) from one form to another through the processes of photosynthesis and respiration.

A.11. *know that these processes lead to the production of ATP, which all cells absolutely require for cell work.

A.12. *understand the chemical reactions involved in cell functions (e.g., food molecules taken into cells are broken down to provide the energy and chemical constituents needed to synthesize other molecules, and that enzymes facilitate the breakdown and synthesis of molecules).

A.13.* know that such exchanges involve a variety of mechanisms for transporting materials across a membrane, including diffusion, osmosis, and transport involving specialized membrane proteins.

** Starred items intended for biology majors.*

B. Successful students understand genetic principles that guide the inheritance of biological traits. They:

B.1. understand Mendel's laws of heredity (e.g., genes and alleles; genotype versus phenotype; segregation and independent assortment; and dominant versus recessive traits). Understand how Mendel's laws relate to the movement of chromosomes to gametes during meiosis and understand the chromosomal basis of sex determination.

B.2.* know the chemical and structural properties of DNA in heredity and protein synthesis (e.g., DNA synthesis, transcription, translation; mRNA and the genetic code; and effects of mutations).

B.3.* understand how recombinant DNA technology allows scientists to analyze the structure and function of genes.

C. Successful students understand the organization and classification of living systems. They:

C.1. know that multicellular organisms have a variety of specialized cells, tissues, organs, and organ systems that each perform specialized functions (e.g., digestion, respiration, circulation, excretion, movement, control and coordination, protection from disease and reproduction). Understand that the different organ systems are integrated to make a functional organism.

C.2. know ways in which living things can be classified based on each organism's internal and external structure, their development, and relatedness of DNA sequence.

D. Successful students understand concepts of biological change and the evolution of species. They:

D.1. know how DNA and protein sequences are used to infer evolutionary relationships among organisms.

D.2. understand the concept of natural selection (differential survival and reproduction of chance inherited variants, depending upon environmental conditions).

D.3. understand the theory of evolution (e.g., the Earth's present-day life forms evolved from earlier, distinctly different species). Know that genetic change among individuals of populations is the raw material for evolution of new forms.

ATTACHMENT 5

Attachment 5:

Sample Approved Courses for A-G by the University of California.

http://www.ucop.edu/A-GGuide/ag/welcome.html

SAN JOSE UNIFIED SCHOOL DISTRICT
Division of Educational Services
High School Course Description

Name of Course: Human Biology Grade Level:

Course Catalog Number: 5548-5549 11 - 12

Department: Science

CBEDS Code: 2603

I. COURSE CATALOG DESCRIPTION:

In this first-year biology course students study the basic concepts and principles of biology from a human perspective. Students learn about the structure and function of human systems in health and disease, human inheritance and change over time and the role of humans in ecological systems. Topics include cell biology, growth, development and reproduction, genetics and evolution, regulatory mechanisms and behaviors, matter and energy in living systems, and the human brain. Laboratory activities include dissection, investigation, and experimentation. Students develop problem-solving skills as they design and conduct their own experiments and develop critical-thinking skills through research and discussion about issues related to advances in biotechnology. This course is recommended for the student who will attend college as a non-science major.

II. LENGTH OF COURSE:

One Semester
√ One Year

If class will meet more than one period per day, indicate: Hours Minutes

III. SPECIFIC COURSE DESCRIPTION

A. Recommended Level: *Check only applicable levels*

√ General
√ College Prep
Honors
A.P.
I.B. Subsidiary Level
I.B. Higher level
E.S.L/Bilingual
Special Education
Voc Ed (CCOC/ROP)

B. GPA Credits

√ Credited (Calculated in GPA)
Pass/Fail (Not Calculated in GPA)

C. Prerequisites:
One year of laboratory science (excluding Biology 1-2)
Integrated Math 1 or Algebra I
Concurrent enrollment in or completion of Integrated Math II or Geometry or higher

IV. HIGH SCHOOL GRADUATION CREDITS

A. Subject Area:

Applied Arts
Economics
Electives
English
Foreign Language
Government
Mathematics
Physical Education
√ Science
Social Science
US History
State Requirements
Visual and Performing Art

B. Credits: 5.0_ /Semester

Course is:

Repeatable
√ Non repeatable

C. Course meets requirement(s) for:

√ High School Graduation

√ University of California/California State University entrance:

a History/Social Science
b English
c Mathematics
√ d Science (Laboratory science)
e Language Other than English
f Visual and Performing Arts
g College Preparatory Electives (includes Laboratory science)

V. COURSE GOALS

Students will :

A. Understand and apply the basic concepts and principles of biology as applied to humans.

B. Understand structure, function and processes of biological systems as they relate to human health and disease.

C. Understand the role of humans in ecosystems and how they interact with and impact the environment.

D. Understand the potential of biotechnical developments and the social and moral impact of such developments.

E. Understand and apply the scientific method to biological investigations using appropriate scientific tools and techniques.

VI. COURSE OBJECTIVES

The San Jose Unified School District Science Standards, developed and drafted by its grade 9-12 science teachers, exceed the California State Science Standards in breadth and depth. The standards, benchmarks, knowledge and skills listed below are those targeted learning objectives that will be assessed in this course.

S1	**THE STUDENT UNDERSTANDS AND APPLIES THE CONCEPTS OF LIFE SCIENCE.**	
	S2(9-10)B2	**Knows the structures of different types of cell parts, the functions they perform, and the role of biochemicals in cell structure.**
	S2(9-10)B2.1	Understands the Cell Theory.
	S2(9-10)B2.2	Knows cellular organization and structure of cell parts.
	S2(9-10)B2.3	Understands structural and functional differences between prokaryotic cells, eukaryotic cells, and viruses; animal cells, plant cells and bacteria.
	S2(9-10)B2.4	Understands cellular processes.
	S2(9-10)B2.5	Understands the role of biochemicals in cell structure .
	S2(9-10)B2.6	Understands that cells are enclosed within semi-permeable membranes that regulate their interactions with the environment.
	S2(9-10)B2.7	Understands that structure, function and biochemicals produced by specialized cells.
	S2(9-10)B3	**Understands the relationships between organizational levels of multicellular organisms.**
	S2(9-10)B3.1	Understands similarities and differences between unicellular and multi-cellular organisms.
	S2(9-10)B3.2.	Understands organizational levels of multicellular organisms.
	S2(9-10)B3.3.	Understands how cellular specialization, division of Laboratory, interdependence, and coordination in multicellular organisms contributes to a stable (homeostatic) internal environment, despite changes in the outside environment.
	S2(9-10)B3.4	Understands how organ systems transport materials, provide cells with nutrients, water and energy, and remove toxic waste products.
	S2(9-10)B3.5	Understands how sensory, feedback and regulatory mechanisms function to maintain homeostatic conditions within multicellular organisms.
	S2(9-10)B3.6	Understands the structural and functional coordination of human organ systems.
	S2(9-10)B4	**Understands the processes of mitosis and meiosis in the reproduction growth and development of an organism.**
	S2(9-10)B4.1	Understands how mitosis produces new cells, each with a complete set of paired (diploid) homologous chromosomes, each genetically identical to the parent cell.
	S2(9-10)B4.2	Understands how meiosis produces gamete (egg or sperm) cells, each with only half (haploid) the original

number of chromosomes, one from each chromosome pair.

S2(9-10)B4.3 Understands how the union of male and female gamete during fertilization produces a zygote with a complete (diploid) set of chromosomes, half its chromosomes from each parent cell.

S2(9-10)B4.4 Understands how sexual reproduction results in new combinations of genetic material in individuals and genetic variation in a population.

S2(9-10)B4.5 Understands the role of chromosomes in determining an individual's sex.

S2(9-10)B4.6 Understands how chromosomal mutations occur.

S2(9-10)B4.7 Understands that following division, cells in multicellular organisms differentiate according to their genetic code into specialized structures with specialized functions.

S2(9-10)B5 Understands features of inheritable genetics, basic principles of heredity and their application to humans.

S2(9-10)B5.1. Understands how genes relate to chromosome structure.

S2(9-10)B5.2 Understands alleles, the principle of dominance, and how traits hidden in one generation can be expressed in the next.

S2(9-10)B5.3 Understands the genetic basis for Mendel's laws of segregation and independent assortment.

S2(9-10)B5.4 Understands how predictions of new combinations of alleles in the zygote are made, given the genetic makeup of the parents.

S2(9-10)B5.5 Understands how phenotypes in a genetic cross can be predicted, given the genotypes
of the parents and mode of inheritance.

S2(9-10)B5.6 Understands how the features of inheritable genetics and basic principles of heredity relate to humans.

S2(9-10)B6 Understands the roles and general structures of DNA and RNA in determining the characteristics of organisms.

S2(9-10)B6.1 Understands DNA structure and replication, and how they relate to chromosome structure and activity.

S2(9-10)B6.2 Understands how nucleotide sequencing in DNA corresponds to amino acids, and that changes (mutation) in the DNA sequence may alter gene expression.

S2(9-10)B6.4 Understands RNA Structure and its role in protein synthesis.

S2(9-10)B6.5 Understands that genes do not work in isolation; gene expression is regulated or influenced by interaction with other genes.

S2(9-10)B6.6 Understands how sequences of DNA can be cut and separated to identify patterns in individuals (e.g., DNA fingerprinting) or can be altered by incorporation of exogenous DNA.

S2(9-10)B7 Understands how the idea of evolution explains the diversity and unity of life on earth.

S2(9-10)B7.1 Understands biological evolution as the process of adaptive change life forms that occurs over time in a response to a changing environment.

S2(9-10)B7.2 Understands natural selection and how it determines the differential survival of populations in a changing environment.

S2(9-10)B7.3 Understands how a diversity of species and variation within a species increases the likelihood that some members of a population will survive changes in the environment.

S2(9-10)B7.4 Understands that genetic variation within a species is due to mutation (both favorable and unfavorable) and recombination of genes through sexual reproduction.

S2(9-10)B7.5 Understands how natural selection acts on the phenotype rather than the genotype of an organism and often retains lethal alleles in the gene pool through heterozygous individuals.

S2(9-10)B7.6 Understands how new species arise through reproductive and geographic isolation.

S2(9-10)B7.7 Understands genetic drift and how it affects genetic diversity and relative frequencies of alleles in the gene pool of a population.

S2(9-10)B7.8	Understands fossil evidence for biological diversity and unity, episodic speciation, and species extinction.
S2(9-10)B8	**Understands the use of energy in cellular systems.**
S2(9-10)B8.2	Understands how chemical energy stored in glucose is made available to plant and animal cells by the process of respiration.
S2(9-10)B8.3	Understands the role of cellular organelles in respiration.
S2(9-10)B8.4	Understands the role of biochemicals in the process
S2(9-10)B8.5	Understands factors that affect the rate and/or yield of products of respiration and photosynthesis.
S2(9-10)B8.6	Understands how cells make use of energy released during cellular respiration.
S2(9-10)B9	**Understands that the amount of life an environment can support is limited by the availability of matter and energy and the ability of the ecosystem to recycle its resources.**
S2(9-10)B9.1	Understands how the sun's energy is captured by living things, converted into matter through photosynthesis, and released for use through cellular respiration.
S2(9-10)B9.2	Understands how matter and energy are passed from one organism to another for growth and metabolic processes.
S2(9-10)B9.3	Understands how the amount of usable matter and energy decreases during each successive energy change along the food chain; unusable energy is dissipated into the environment as heat
S2(9-10)B9.4	Understands how oxygen, water, carbon, nitrogen and water are cycled between the biotic and abiotic environment.
S2(9-10)B9.5	Understands carrying capacity and factors that limit the size and growth f populations within an ecosystem.
S2(9-10)B96.	Understands factors that interfere with the flow of matter, energy and resources through an ecosystem.
S2(9-10)B10	**Understands that the interrelationships and inter dependencies among organisms generate stable ecosystems that fluctuate around a state of rough equilibrium for hundreds or thousands of years.**
S2(9-10)B10.1	Understands the role of producers, consumers and decomposers in an ecosystem.
S2(9-10)B10.2	Understands the role of living organisms in the cycling of water, nutrients and energy through the environment.
S2(9-10)B10.3	Understands how different populations interact with one another in a community.
S2(9-10)B10.4	Understands the importance of biodiversity in a community and how it is affected by changes in climate, habitat, availability of resources, human activity or introduction of non-native species.
S2(9-10)B10.5	Understands population growth, factors that result in fluctuation of populations and how changes in population size affect the ecological balance of community.
S2(9-10)B10.6	Understands the difference between accommodation of an individual to its environment, and the gradual adaptation of a lineage of organisms through genetic change.
S2(9-10)B10.7	Understands how ecosystems are interconnected.
S2(9-10)B11	**Understands the scientific basis for maintaining optimal human health as well as current sociological hazards.**
S2(9-10)B11.1	Understands general causes for disease.
S2(9-10)B11.2	Understands the role of various agents infectious diseases, effective means of treatment and prevention.
S2(9-10)B11.3	Understands cause, prevention and effects of HIV/AIDS.
S2(9-10)B11.4	Understands human mechanisms for combating disease.
S2(9-10)B11.5	Understands how drugs, alcohol and tobacco affect the human body.
S2(9-10)B11.6	Understands the role of nutrition, rest and exercise in maintaining optimum human health.

S4 THE STUDENT THINKS SCIENTIFICALLY.

S4(9-10)B1	**Classifies living and non-living things according to their structure, function, and manner in which they interact with other things**
S4(9-10)B1.1	Understands similarities and differences in the structure and function of living and non-living things (e.g., organic/inorganic compounds, atom/ion, antibody/antigen, bacteria/virus, dominant/recessive traits, enzymes/hormones, aerobic/anaerobic).
S4(9-10)B1.2	Understands similarities and differences in interactions among living and non-living things (e.g., herbivore/carnivore, ionic/covalent bond, endothermic/exothermic).
S4(9-10)B2	**Understands the use of hypotheses in science**
S4(9-10)B2.1	Understands differences between a guess, hypothesis and theory as these terms are applied in science.
S4(9-10)B2.2	Understands how hypothesis statements can be framed to achieve meaningful results (e.g., cause and effect statements, correlation of variables, sequence of events).
S4(9-10)B2.3	Understands how a hypothesis is used to select and guide the interpretation of data.
S4(9-10)B2.4	Understands how a hypothesis is used to determine if additional data needs to be gathered.
S4(9-10)B2.5	Understands how hypotheses are modified in accordance with collected data and evidence.
S4(9-10)B3	**Performs error analysis on collected data**
S4(9-10)B3.2	Understands controlled tests.

S5 THE STUDENT CONDUCTS SCIENTIFIC INVESTIGATIONS.

S5(9-10)B1	**Understands that investigations are conducted for a variety of reasons**
S5(9-10)B1.1	Understands that investigations are conducted to discover new aspects of the natural world.
S5(9-10)B1.2	Understands that investigations are conducted to explain observed phenomena.
S5(9-10)B1.4	Understands that investigations are conducted to test the predictions prompted by current scientific theories.
S5(9-10)B2	**Uses scientific literature as a source of information in research**
S5(9-10)B2.2	Knows appropriate sources for obtaining various kinds of scientific information (e.g., boiling point of water, famous scientists, causes of disease).
S5(9-10)B3	**Designs and conducts scientific experiments**
S5(9-10)B3.1	Formulates testable hypotheses.
S5(9-10)B3.2	Develops experimental procedures to prove or disprove a hypothesis.
S5(9-10)B3.3	Understands and controls variables (e.g., uses a control when appropriate, dependent and independent variables).
S5(9-10)B3.4	Collects, records and organizes data.
S5(9-10)B5	**Writes concise Laboratory reports**
S5(9-10)B5.1	Defines problem or poses question with focus and clarity.
S5(9-10)B5.2	Proposes solutions to problem or hypothesis in a manner that is testable.
S5(9-10)B5.3	Describes procedures, techniques, critical materials, and safety precautions so that the experiment is repeatable by others.
S5(9-10)B5.4	Presents data in an organized and appropriate format (e.g., charts, diagrams, graphs, narrative).
S5(9-10)B5.5	Presents interpretation and analysis of data (e.g., error analysis, discrepant results, uncontrolled conditions, statistical variation).
S5(9-10)B5.6	Proposes explanations for experimental observations.
S5(9-10)B5.7	Draws conclusions based upon experimental evidence and discusses their implications for application or further study.

S6 THE STUDENT UNDERSTANDS AND USES SCIENTIFIC TOOLS AND TECHNOLOGIES

S6(9-10)B1	**Uses laboratory skills, techniques and apparatus to conduct more complex investigations**
S6(9-10)B1.1	Selects appropriate tools and equipment (e.g., microscopes, balances, computer-linked probes, graphing calculator, optical equipment, glassware, Bunsen burner) to gather, analyze, interpret and display scientific data.
S6(9-10)B1.2	Uses tools and equipment properly (e.g., microscopes, balances, computer software, computer-linked probes, graphing calculator, optical equipment, glassware, Bunsen burner, thermometer) to gather, analyze, interpret, and display scientific data.
S6(9-10)B1.3	Selects and uses appropriate techniques (e.g., dissection, calibration, separation of mixtures, identification of unknown substances, titration, DNA fingerprinting, electrolysis) to gather, analyze, interpret and display scientific data.
S6(9-10)B2	**Uses appropriate tools and technology to conduct scientific investigations with accuracy**
S6(9-10)B2.1	Selects and uses appropriate measuring devices (e.g., mass, linear, volumetric, temperature, voltage, compass, stopwatch) for the degree of accuracy required.
S6(9-10)B2.2	Uses scales and units (e.g., resolution, conversion) of measurement (e.g., meters, millimeters; standard and metric; degrees Celsius, Fahrenheit and Kelvin; calorie; light-years) that are appropriate for the degree of accuracy required.
S6(9-10)B3	**Uses proper procedures for handling Laboratory tools, chemicals, equipment and animals**
S6(9-10)B3.1	Uses laboratory tools (e.g., scalpel, Bunsen burner, glassware) safely and correctly.
S6(9-10)B3.2	Uses chemicals safely and correctly.
S6(9-10)B3.3	Uses equipment (e.g., microscope, balances, spectrometers) safely and correctly.
S6(9-10)B3.4	Handles animals and biological materials (e.g., dissectible, live animals, cultured organisms) safely, correctly, and humanely.
S6(9-10)B4	**Demonstrates safety procedures and knows how to respond when an accident occurs during a science experiment**
S6(9-10)B4.1	Selects and uses personal safety equipment when appropriate (e.g., goggles, apron, gloves).
S6(9-10)B4.2	Understands and follows safety guidelines for appropriate behavior and personal hygiene in the science classroom and Laboratory (e.g., no food or drink; tie back long hair when using an open flame; remove contact lenses when working with chemicals).
S6(9-10)B4.3	Understands general emergency procedures for the science classroom and Laboratory (e.g., location of exits; use and location of eyewash, fire blanket and fire extinguisher).
S6(9-10)B4.4	Understands procedures for handling an accident at the laboratory workstation (e.g., chemical spill, biological contamination of workstation, gas leak, glass breakage).
S6(9-10)B5	**Uses a variety of tools, including technology, to apply mathematical operations to data analysis and interpretation during scientific investigations**
S6(9-10)B5.1	Understands and uses appropriate expressions of mathematical values (e.g., scientific notation, significant digits, significant figures) for scientific measurement and computations.
S6(9-10)B5.2	Understands and uses appropriate mathematical operations and formulas (e.g., calculates speed, density, volume, displacement, potential energy, probability, percent composition, measurement conversions) for data interpretation during scientific investigations.
S6(9-10)B6	**Uses a variety of tools, including technology, to organize and communicate information from scientific investigations**

S6(9-10)B6.1 Selects and uses tools, including technology (e.g., charts, graphs, diagrams, flowcharts data bases, spreadsheets) to organize scientific information.

S7 THE STUDENT COMMUNICATES AND UNDERSTANDS SCIENTIFIC INFORMATION AND PROCESSES

S7(9-10)B1 Communicates understanding of scientific concepts and principles

S7(9-10)B1.1 Presents understanding of science concepts in written form (e.g. reports, essays, graphics), supporting statements with application and/or evidence.

S7(9-10)B1.2 Makes oral presentations that demonstrate understanding of science concepts and principles, supporting statements with application and/or evidence.

S7(9-10)B3 Understands scientific information contained in a variety of sources

S7(9-10)B3.1 Acquires information from a variety of sources (e.g., science textbooks, encyclopedia, Internet, interviews, museums, topographical maps, newspaper).

S7(9-10)B3.2 Selects and uses appropriate sources for obtaining various kinds of scientific information (e.g., boiling point of water, famous scientists, causes of disease, topographical and geological maps, weather maps).

S7(9-10)B3.3 Understands differences between scientifically valid and invalid sources.

S7(9-10)B4 Interprets and reports scientific procedures and processes

S7(9-10)B4.1 Interprets and follows logic and sequence of steps in a scientific investigation.

S7(9-10)B4.2 Reports step-by-step procedures in an experiment with logic and sequence.

S7(9-10)B4.3 Interprets and writes chemical symbols, formulas, and equations (e.g., balanced chemical equations, ionic symbols, Lewis dot structures, exothermic/endothermic equations).

S8 THE STUDENT UNDERSTANDS HOW DEVELOPMENTS IN SCIENCE AND TECHNOLOGY AFFECT SOCIETY AND THE ENVIRONMENT

S8(9-10)B1 Knows examples of advanced and emerging technologies and how they could impact society

S8(9-10)B1.1 Knows technological developments in the biomedical field and how they impact society (e.g., DNA fingerprinting, genetic engineering, cloning, organ transplant, in vitro fertilization, pharmacology, cancer and HIV/AIDS research and treatment, vaccines, antibiotics, biochemical warfare).

S8(9-10)B1.2 Knows technological developments in agriculture and how they impact society (e.g., selective breeding, genetic engineering, cloning, use of pesticides).

S8(9-10)B1.5 Knows technological developments in energy resources and how they impact society (e.g., nuclear energy, solar power, use of biomass, electric powered automobiles, alternative energy resources, use of lasers).

S8(9-10)B1.6 Knows developments in materials technology and how they impact society (e.g., plastics, pharmaceuticals, biodegradable materials, fire-proof material, materials for warfare)

S8(9-10)B1.7 Knows technological developments that have been designed to improved the quality of our lives and their consequential impact on society (e.g., television, computer technology, data processing, sanitation, building construction, virtual reality).

S8(9-10)B2 Knows that throughout history, diverse cultures have developed scientific ideas and solved human problems through technology

S8(9-10)B2.1 Understands contributions of various cultures to the development of scientific ideas and technological developments (e.g., production of paper, gunpowder, printing press, radio, medicines, agriculture, internal combustion engine).

S8(9-10)B2.3 Understands how scientific and technological developments influence subsequent developments in science and technology.

S8(9-10)B4 Understands that alternatives, risks, costs, and benefits must be considered when developing new technologies or when choosing available technologies

S8(9-10)B4.1 Understands technological solutions to problems, their alternatives (e.g., alternative energy sources, natural resources), and their constraints (e.g.,

	physical limitations, efficient use of resources, cost, risk to life and the environment).
S8(9-10)B4.2	Understands that the benefits of technological development may pose accompanying risks to individuals, society, or the environment (e.g., pollution, health risks, extinction of species).
S8(9-10)B4.3	Understands costs of technological development and who/what bears them (e.g., young/old; developing nations, underprivileged classes, plant and animal populations, various ecosystems).
S8(9-10)B4.4	Understands resource requirements for technological development and methods for conservation and recycling.
S8(9-10)B5	**Understands ethical responsibilities associated with scientific enterprise and appropriate use of new discoveries**
S8(9-10)B5.2	Understands ethical concerns associated with scientific research (e.g., testing on animals, humans).
S8(9-10)B5.3	Understands ethical concerns associated with various scientific and technological developments (e.g., germ warfare, atomic bomb, genetic engineering, human cloning).
S8(9-10)B6	**Understands that although technology may increase our quality of life, it can cause stress on the natural environment**
S8(9-10)B6.1	Understands how technological developments have resulted in the destruction of habitats.
S8(9-10)B6.2	Understands how technological developments have brought about overuse of land and natural resources.
S8(9-10)B6.3	Understands how technological developments have brought about environmental pollution and changes in the earth's atmosphere.
S8(9-10)B7	**Understands how humans have impacted the environment and developed practices that alleviate damage to natural resources**
S8(9-10)B7.1	Understands the environmental impact of human population growth and resource consumption.
S8(9-10)B7.2	Understands ways in which scientific and technological developments have impacted the environment and availability of natural resources.
S8(9-10)B7.3	Understands methods of conservation that can be used to prevent or reduce resource consumption (e.g., alternative energy sources, improving efficiency of energy and natural resources, recycling of mineral resources, recycling of wood, paper and plastic products).
S8(9-10)B7.4	Understands methods of conservation that can be used to protect the environment (e.g., use of natural predators to replace insecticides; use of bacteria to clean oil spills; promoting environmental stewardship; sewage and water treatment systems; treatment of hazardous waste).
S8(9-10)B8	**Identifies the role of science and technology in a variety of careers**
S8(9-10)B8.2	Knows fields in which scientists and engineers work (e.g., education, research, design, medicine, biotechnology, space exploration).
S8(9-10)B8.3	Knows science knowledge and skills that are used by people in a variety of careers (e.g., collecting data, conducting a controlled investigation, classifying information, manipulation of scientific equipment).

LIFELONG LEARNING STANDARDS

The San Jose Unified School District Lifelong Learning Standards were developed and drafted by its teachers, administrators, parent, and community partners. The standards and indicators checked below are those targeted learning objectives that will be assessed in this course.

Students will be **effective communicators** who:

√ listen objectively with understanding
speak with clarity of meaning to any audience for a variety of purposes
read a variety of materials with understanding

√ write with clarity of meaning to any audience for a variety of purposes
√ use a variety of strategies to communicate information

Students will be **informed thinkers** who:
√ identify, define and solve problems
√ set criteria and analyze alternatives in making decisions
√ use a variety of critical and creative strategies in solving problems and making decisions
√ explain their thought processes in arriving at outcomes
√ apply problem-solving and decision-making skills to real life situations

Students will be **self-directed learners** who:
√ assess and reflect on their attitudes, skills and behaviors
set priorities, plan and take action to accomplish goals
√ manage time and resources efficiently
√ apply what they learn to other situations
explore and prepare for academic, extracurricular and career opportunities

Students will be **collaborative workers** who:
√ contribute to the achievement of group or team goals
perform a variety of roles within groups or teams
√ acknowledge and respect contributions of others
reflect on group or team and personal performance

Students will be **responsible members of society** who:
√ recognize diverse ethnic, linguistic, cultural and economic backgrounds
√ recognize the rules and processes that govern societies
demonstrate and exercise the skills required to be a contributing member of a society
√ apply practices that preserve the safety and health of one's self, others and the
environment

Students will be **information processors** who:
√ identify, access, gather and evaluate relevant data
√ convert data into usable information related to need
√ build knowledge by using a variety of information resources and tools including
technology

VII. COURSE OUTLINE

Unit 1. The Nature of Biology

A. The Methods of Biological Investigations

B. Biological Tools and Technologies
1. Laboratory: Metric Measurement
2. Laboratory: Microscope, Balances, Graduated cylinders

C. Scientific Method

1. Testable hypothesis
2. Experimental design
3. Independent/dependent variables
4. Controls
5. Sample size
6. Data collection and recording
7. Data interpretation and error analysis
8. Drawing inferences and/or conclusions
9. Laboratory: Designing a Controlled Experiment--pH and Acid/Base Indicators

Unit 2. The Cell

A. Cell Theory

B. Cell structure and function

1. Cell Chemistry
2. Eukaryotic cell structure
3. Plant and animal cells
4. Laboratory: Comparing Plant and Animal Cells
5. Laboratory: Build a Cell

C. Plasma membrane

1. Internal and external environments
2. Hypertonic/hypotonic/isotonic solutions
3. Osmosis and diffusion
4. Permeability
5. Fluid Mosaic Model
6. Active and passive transport
7. Laboratory: Osmosis and Diffusion

D. Cell division and growth

1. Cell size: Surface to volume ratio
2. Mitosis and the cell cycle
3. Laboratory: Phases of Mitosis
4. Regulation of the cell cycle
5. Enzymes
6. Laboratory: Does Temperature Affect Enzyme Reaction?
7. Cancer: causes and prevention
8. Cell differentiation
9. Organizational levels: tissue, organ, organ system

Unit 3. Heredity in Humans

A. Meiosis

1. Phases of Meiosis
2. Meiosis and Mitosis

3. Gametogenesis
4. Fertilization
5. Genetic variation

B. DNA structure and function

1. Nucleotides/base-pairing
2. DNA as an information molecule
3. DNA replication

C. DNA and protein production

1. Genes and proteins
2. RNA
3. Transcription
4. The genetic code
5. Translation
6. Protein synthesis
7. Expression of genetic information

D. Genetic changes

1. Chromosomal/genetic mutations
2. Genetic engineering
3. Recombinant DNA
4. Laboratory: Isolating DNA
5. The Human Genome
6. Bioethics

E. Human Genetics: Patterns of Inheritance

1. Mendelian genetics
2. Genotype and phenotype
3. Dominant/recessive alleles
4. Heterozygosity/homozygosity
5. Monohybrid and dihybrid crosses
6. Segregation of alleles
7. Pedigree
8. Laboratory: Punnet squares
9. Laboratory: Probability

F. Complex Inheritance of Human Traits

1. Multiple alleles
2. Sex-linked traits
3. Laboratory: Yeast Genetics
4. Co-dominance/incomplete dominance
5. Effect of environment on gene expression
6. Laboratory: Multiple Alleles
7. Laboratory: Sex linked Traits
8. Laboratory: Incomplete Dominance
9. Laboratory: Co-dominance
10. Human Genetic Disorders

Unit 4. Evolution

A. Origin of Life
   1. Earth History
   2. Geologic time scale
   3. Evolution of cells

B. Evolutionary theory
   1. Lamark's principles
   2. Darwin's Theory of Natural Selection
   3. Adaptation
   4. Diversity
   5. Biological classification systems
   6. Laboratory: Diversity and Adaptation in a Marine Environment
   7. Laboratory: Diversity and Adaptation across Time

C. Evidence for Evolution
   1. Fossil evidence
   2. Homologous structures
   3. Embryological evidence
   4. Biochemical evidence
   5. DNA evidence

D. Mechanisms of Evolution
   1. Mutation
   2. Variation
   3. Laboratory: Variation
   4. Natural Selection
   5. Speciation
   6. Isolation
   7. Migration

Unit 5. Human Support and Locomotion: Skeleton and Muscles

A. Skeletal System: Structure and function
   1. Vertebrates and invertebrates
   2. Axial and appendicular skeleton
   3. Ligaments and muscle attachment
   4. Moveable and immovable joints
   5. Bone formation, structure and function
   6. Blood cell production
   7. Calcium and phosphorus storage
   8. Bone disorders, diseases, injuries and first aid
   9. Laboratory: Osteocytes and Haversian Canal
   10. Laboratory: Identification of Bones

B. Muscles: Structure and function
   1. Types of muscle
   2. Skeletal-muscular system
   3. Skeletal muscle contraction
   4. Myofibrils and filaments
   5. Muscle strength and exercise
   6. Cellular respiration
   7. Laboratory: Energy in Cellular Reactions
   8. Aerobic and anaerobic respiration

9. Energy in human performance
10. Muscle fatigue
11. Laboratory: Muscle Identification
12. Laboratory: Conditioning and cellular respiration
13. Muscle disorders, diseases, injuries and first aid
14. Laboratory: Muscle Movement

Unit 6. Fluid Transport and Immunity: Circulatory and Lymphatic Systems

A. Human blood components
1. Red blood cells/hemoglobin
2. Oxygen/carbon dioxide transport
3. White blood cells and defense
4. Blood clotting
5. Blood typing: ABO groups
6. Antigens/antibodies
7. Rh factors
8. Human placenta
9. Blood disorders, disease (HIV/AIDS), injury and treatment
10. Laboratory: Simulated Blood Typing

B. Blood Vessels: Structure and function
1. Arteries, veins, capillaries
2. Laboratory: Comparing Arteries and Veins, A Comparative Study in Anatomy and Function
3. Laboratory: Circulation in Living Organism (fish tail)
4. Blood vessel disorders and disease

C. Heart: Structure and function
1. Blood's path through the heart
2. Heartbeat control and regulation
3. Laboratory: How Do Drugs Affect the Heartrate of Daphnia?
4. Blood pressure: Systolic and diastolic
5. Laboratory: Blood Pressure
6. Disorders and diseases of the heart
7. Preventive and technological treatment
8. Laboratory: Sheep Heart Dissection

D. Infectious Disease
1. Koch's postulates
2. Causes of diseases
3. Bacteria and viruses: Structure and function
4. Reservoirs and transmission of disease
5. Causes of symptoms
6. Patterns of disease
7. Treating diseases
8. Innate defense: Secretion, immunity, inflammation, WBC, interferons
9. Laboratory: How Sensitive are Bacteria to Antibiotics?

E. Lymphatic System: Structure and function
1. Acquired immunity
2. Antibody immunity
3. Cellular immunity
4. Passive and active immunity
5. HIV/AIDS
6. Human transplants and rejection

7. Immune diseases and disorders
8. Laboratory: Fluid Exchange and Risk Assessment

Unit 7. Human Digestion and Nutrition: Digestive System

A. Digestive System: Structure and function
   1. Mechanical digestion
   2. Chemical digestion: Enzymes
   3. Acid, bases and buffers
   4. Absorption: Food and water
   5. Elimination of Wastes
   6. Laboratory: Frog Dissection
   7. Digestive disorders and disease

B. Nutrition
   1. Food Chemistry: Fats, Proteins, Carbohydrates
   2. Laboratory: Food Analysis
   3. Minerals and Vitamins: Coenzymes
   4. Solubility: Fat soluble and water solubility substances
   5. Food Energy: Calories
   6. Laboratory: Calorimetry
   7. Metabolism: Energy intake and output
   8. Role of water in human metabolism
   9. Balanced diet
   10. Activity: Diet Analysis and Food Labels
   11. Malnutrition: Starvation and eating disorders

Unit 8. Human Excretion: Respiratory and Urinary Systems and Skin

A. Lungs: Structure and function
   1. Mechanics of breathing
   2. Regulation of breathing
   3. Air filtration
   4. Gas exchange: Diffusion of gases
   5. Blood transport of gases
   6. Cellular respiration
   7. Laboratory: Lung Volume and Capacity
   8. Laboratory: Respiratory Rate
   9. Laboratory: pH on a Scale of 1 to 14
   10. Laboratory: Buffers: Regulating pH
   11. Vital Signs and disorders and diseases of the respiratory system
   12. Smoking

B. Urinary System: Structure and Function
   1. Kidneys
   2. Nephron: Filtration, pressure, diffusion and ion transport
   3. Formation of urine
   4. Homeostasis
   5. Disorders and diseases of the urinary tract

C. Skin: Structure and function
   1. Protection: Epidermis, dermis, pigmentation
   2. UV Protection
   3. Glands: Sweat and sebaceous glands
   4. Temperature regulation: Evaporation and cooling

5. Feedback systems
6. Elimination of fluids
7. Sensory reception
8. Vitamin production
9. Skin disorders, diseases, injury and treatment
10. Laboratory: What's Your Temperature Now?

Unit 9. Human Reproduction: Reproduction and Endocrine Systems

A. Endocrine glands: Structure and function
1. Hormones: Steroid and amino acid hormones
2. Endocrine control of body
3. Negative feedback control: hormones, water and glucose levels
4. Hormone action: Cell receptors
5. Adrenal hormones and stress
6. Thyroid and Parathyroid Hormones
7. Human growth
8. Laboratory: Average Growth Rate

B. Reproductive System: Structure and function
1. Gametogenesis and meiosis
2. Male reproductive system
3. Sperm and semen formation
4. Male puberty and hormone control
5. Female reproductive system
6. Egg formation and release
7. Female puberty and hormone control
8. Menstrual cycle
9. Fertilization and implantation
10. Laboratory: Development of Frog Eggs
11. Embryonic membranes and placenta
12. Fetal development
13. Human birth, growth, and aging
14. Disorders: STD: Bacteria and viruses
15. Sexual Responsibility
16. Laboratory: Observing Reproductive Behavior in Nonhuman Animals

Unit 10. Human Brain, Nervous System and Senses

A. Neurons: Specialized cell structure and function
1. Stimulus and response
2. Laboratory: Animal Response to Light
3. Cell membrane permeability
4. Nervous impulses: Wave of polarization
5. Sodium/potassium pump
6. Synapse: Neurotransmitters
7. Laboratory: Cutaneous Sensation

B. Central Nervous System: Structure and function
1. Human Brain: Structure and function
2. Evolution of the Brain
3. Human thinking and learning
4. Spinal cord
5. Brain and spinal cord disorders and diseases

C. Peripheral Nervous System: Structure and function
1. Somatic and autonomic systems
2. Sympathetic and parasympathetic systems
3. Reflex

D. Senses:
1. Eye: Structure and function
2. Ear: Structure and function

E. Effects of Drugs and alcohol
1. Addiction and chemical dependency

F. Characteristics of the human animal
1. Human capacity for culture and learning
2. Information and inductive reasoning
3. Relationship of the brain and mind
4. Laboratory: Primates Exploring Primates

Unit 11. Ecology
A. Principles of ecology
1. Biotic and abiotic factors in the environment
2. Organizational levels: biosphere, ecosystem, community, population, organism
3. Organisms in ecosystems: habitat and niche
4. Relationships in ecosystems: commensalism, mutualism, parasitism
5. Laboratory: Observing Earthworm Habitats

B. Matter and energy flow through ecosystems
1. Autotrophs and heterotrophs
2. Energy transfer and energy pyramid
3. Photosynthesis
4. Laboratory: Leaf Anatomy
5. Laboratory: Using Light Energy to Build Matter
6. Laboratory: Composting and Generating Heat Energy
7. Food chains and food webs
8. Trophic relationships: Symbiosis, predator/prey
9. Laboratory: Observing Predator and Prey Relationships

C. Communities and Biomes
1. Limiting factors and ranges of tolerance
2. Competition
3. Stages of ecological succession: primary, secondary, climax community
4. Biomes: Aquatic and terrestrial, biotic and abiotics factors
5. Laboratory: Observing Effects of Limiting Factors in an Aquarium

D. Populations
1. Population growth: linear and exponential
2. Immigration and emigration
3. Reproductive patterns
4. Environmental factors and limitations
5. Human growth rate
6. Laboratory: Human Population Growth

E. Human Impact on Ecosystems
1. Biodiversity
2. Endangered Species/Extinction
3. Conservation

VIII. INSTRUCTIONAL METHODS and/or STRATEGIES

Example:

1. Lecture
2. Discussion
3. Group Work
4. Readings
5. Laboratory Investigations
6. Library Research
7. Internet Research
8. Videos
9. CD Roms

IX. ASSESSMENT

Example:

1. Exams
2. Quizzes
3. Research papers
4. Laboratory reports
5. Homework assignments
6. Projects
7. Classroom participation
8. Final exams
9. Performance based assessments

X. TEXTS AND SUPPLEMENTAL INSTRUCTIONAL MATERIALS

BSCS Biology: A Human Approach, Kendall-Hunt Publishers, 1997 (Pending Board approval).

Biology: The Dynamics of Life, Glencoe-McGraw-Hill Publishers, 2000

Course requested by: Lincoln High School Science Department Funding Source: School funds

Contact Person: Science Resource Teacher, District Office

CHEMISTRY SAMPLE COURSE ON UC WEBSITE

Course Description

A. COVER PAGE

1. Course Title
Chemistry

2. Transcript Title / Abbreviation
1410

3. Transcript Course Code / Number
Chemistry

4. School
Scotts Valley High School

5. District
Scotts Valley Unified School District

6. City
Scotts Valley

7. School / District Web Site
www.svhs.santacruz.k12.ca.us

8. School Contact

Name: **Tom Utic**

Title/Position: **Assistant Principal**

Phone: **831/439-9555** Ext.:

Fax: **831/439-9501**

E-mail: **utict@svsd.org**

9. Subject Area

- ☐ History/Social Science
- ☐ English
- ☐ Mathematics
- ☒ Laboratory Science
- ☐ Language other than English
- ☐ Visual & Performing Arts (for 2003)
- ☐ College Prep Elective

10. Grade Level(s)
10

11. Seeking "Honors" Distinction?
☐ Yes ☒ No

12. Unit Value

- ☐ 0.5 (half year or semester equivalent)
- ☒ 1.0 (one year equivalent)
- ☐ 2.0 (two year equivalent)
- ☐ Other: _____

13. Date of School Board Approval
July 24, 2000

14. Was this course previously approved by UC? ☐ Yes ☒ No If so, year removed from list? _____
Under what course title? _____

15. Is this course modeled after an UC-approved course from another school? ☐ Yes ☐ No
If so, which school(s)? _____

16. Pre-Requisites
Algebra 1

17. Co-Requisites
Geometry

18. Brief Course Description
Chemistry in the Community [ChemCom] is a high school course chemistry course developed by the American Chemical Society. The course explores chemistry as it relates to household, local, and global environments. It is a laboratory-oriented course that addresses the same topics as a traditional chemistry course, while putting those ideas in context through the use of thematic units. This course is appropriate for all students; it serves as an introductory course for students who will pursue additional science courses, and provides a solid grounding in chemistry for all others.

COURSE GOALS AND/OR MAJOR STUDENT OUTCOMES

1. Use scientific thinking and processes to solve real world problems for individual and societal purposes.
2. Articulate an understanding of the global natural world, and recognize both its diversity and unity and the individual's role in the world's uses and preservation.
3. Communicate knowledge and understanding of the connections between the major concepts of chemistry and other sciences and non-sciences.
4. Incorporate ethical thinking in science-based decisions, and take individual and group responsibility for those decisions.
5. Gain self-esteem through successful completion of individual and group problem solving activities and projects.

COURSE OBJECTIVES

1. Students will be able to demonstrate all abilities necessary to conduct scientific inquiry.

    a. Identify methods of scientific investigation.
    b. Design and conduct scientific investigations.
    c. Use appropriate technology to carry out scientific investigations, and build new technology skills throughout the course.
    d. Formulate and revise scientific explanations using evidence and critical thinking skills.
    e. Analyze explanations and communicate an understanding of the results of scientific inquiry.

2. Students will be able to identify the basic properties of atoms and molecules, and compare and contrast the relationships that exist for both types of matter.

    a. Demonstrate knowledge of the periodic table and the properties of the elements.
    b. Describe the types of bonding between atoms to create molecules.
    c. Classify types of matter [gas, solid, liquid] and apply knowledge to molecular structures.
    d. Identify various types of molecules with carbon atoms: alkanes, alkenes, polymers, and proteins.
    e. Categorize metals and non-metals and the differences between them.

3. Students will be able to analyze and calculate using formulas and concepts of chemical reaction.

    a. Illustrate the various ways that chemical reactions relate to energy release or consumption.
    b. Explain how catalysts can effect chemical reactions.

c. Discuss the forms that chemical reaction can take, including both slow and fast reactions such as explosions and radioactive reactions.
d. Expound on the relationship of chemical reactions to everyday life.
e. Demonstrate an understanding of chemical reactions through manipulation of chemical equations describing those reactions.
f. Examine nuclear reactions, and the relationship between the physics and chemistry of such reactions.

4. Students will be able to generalize the relationship of acids and bases, and solutions composed of these substances.

    a. Compare and contrast the properties of acids and bases.
    b. Calculate the pH of acid and base solutions.
    c. List the definitions of solutes and solvents, and understand the process at the molecular level.
    d. Solve problems of solution concentration in a variety of manners.

5. Students will be able to articulate the relationship between the concepts of chemistry and the world around them.

    a. Apply chemistry concepts to their understanding of personal and community health.
    b. Examine environmental quality and natural resources from a chemical viewpoint.
    c. Interpret natural and human-induced hazards using a chemical understanding.
    d. Consider the effects of chemical research and use on the local, national, and global environment.
    e. Connect the nature of scientific knowledge and historical chemistry endeavors with their impact on world cultures past, present, and future.

COURSE OUTLINE

ChemCom consists of seven thematic units that reinforce the interdisciplinary nature of the study of chemistry.

I. Water: Exploring Solutions

A. Sources and Uses of Water
B. Water and Its Contaminants
C. Investigating the Cause of the Fish Kill [fictional]
D. Water Purification and Treatment

II. Materials: Structures and Uses

A. Why We Use What We Do
B. Earth's Mineral Resources
C. Conservation
D. Materials: Designing For Properties

III. Petroleum: Making and Breaking Bonds

A. Petroleum: What is It?
B. Petroleum as an Energy Source
C. Petroleum as a Building Source
D. Energy Alternatives to Petroleum

IV. Air: Chemistry and the Atmosphere

A. Gases in the Atmosphere
B. Radiation and Climate
C. Acids in the Atmosphere
D. Air Pollution-Sources, Effects, and Solutions

V. Industry: Applying Chemical Reactions

A. The Chemistry of Nitrogen
B. Nitrogen and Industry
C. Metal Processing and Electrochemistry

VI. Atoms: Nuclear Interactions

A. The Nature of Atoms
B. Nuclear Radiation
C. Using Radioactivity
D. Nuclear Energy-Benefits and Burdens

VII. Food: Matter and Energy for Life

A. Food as Energy
B. Energy Storage and Use
C. Proteins, Enzymes, and Chemistry
D. Other Substances in Foods

TEXT AND SUPPLEMENTAL INSTRUCTIONAL MATERIALS

Primary Textbook: Chemistry in the Community, Fourth Edition, American Chemical Society, W. H. Freeman and Company, New York, 2001.

SUPPLEMENTAL MATERIAL

1. Selected articles from CHEM MATTERS, Science Teacher, National Geographic, Scientific American, Journal of Chemical Education, and other periodicals applicable to the units and course of study.
2. Research projects, using library and Internet research tools
3. Videotapes and CD-ROMs
4. Guest speakers

KEY ASSIGNMENTS

Laboratory Activities

I. Water Purification, Testing Water for Ions, Solubility Curves, Water Softening [Ion exchange]

II. Metal or Nonmetal?, Converting Copper, Relative Reactivities of Metals, Retrieving Copper, Striking It Rich [Penny experiment], Copper Plating, The Dirt on Crime [metals in soil]

III. Modeling Alkanes, Alkanes Revisited, Combustion, Alkenes and Their Polymers, Condensation, Fibers Don't Fib [synthetic fiber analysis]

IV. Exploring Properties of Gases, Temperature-Volume Relationships, Specific Heat Capacity, Carbon Dioxide Levels, Making Acid Rain, Buffers, Cleaning Air

V. Fertilizer Components, Phosphates, Le Chatelier's Principle, Voltaic Cells

VI. Alpha, Beta, and Gamma Radiation, Cloud Chambers, Your Bones have a Message [carbon dating analysis]

VII. Energy Contained in a Snack, Enzymes, Amylase Tests, Vitamin C, Food Coloring Analysis, White Powders [unknown substance analysis]

Additional Data Analysis Activities using pre-arranged data

IBMYP and Other Projects: four interdisciplinary projects assigned yearly

INSTRUCTIONAL METHODS AND/OR STRATEGIES

Instruction will include the following methods:

1. Directed instruction
2. Laboratory experimentation
3. Teacher demonstration
4. Cooperative problem solving
5. Research Project Design and Implementation
6. Guest speakers
7. Videotapes, CD-ROMs, and other multimedia
8. Student Presentation

ASSESSMENT METHODS AND/OR TOOLS

Assessment will be carried out using a variety of methods:

1. Homework
2. Individual exams and quizzes
3. Laboratory practicum's
4. Laboratory experiments and reports
5. Research Projects, both Interdisciplinary and Chemistry Specific
6. Oral presentation, individual and group

Each type of assessment is used for the overall grade as follows:

Assignment Assessed	**Percent of Total Grade**
Homework	10%
Quizzes	10%
Labs	25%
Projects	25%
Exams	30%

Quizzes and homework will be assigned/given weekly. Laboratory experiments will be done 1-2 times per week. One major project will be assigned each quarter. Two exams will be given per major unit of study; exams may include a lab practicum section. A semester final exam will be given twice yearly.

COURSE CONTEXT

In addition to meeting state standards, this course was designed to satisfy the requirements of the International Baccalaureate Organization under the Middle Years

Program (IB MYP). In January of 2001, Scotts Valley High School was authorized as an IB World School in the Middle Years Program.

HISTORY/SOCIAL SCIENCE SAMPLE COURSE ON UC WEBSITE

Course Description

Course Title
U.S. History

School
Pacific Coast Charter School

District
Pajaro Valley Unified School District

City
Watsonville

Department or Discipline
- X History/Social Studies
- ❑ English/Language Arts
- ❑ Mathematics
- ❑ Laboratory Science
- ❑ Language other than English
- ❑ Visual & Performing Arts (for 2003)
- ❑ College Preparatory Elective:
  Subject Area: _____

Name of School Contact Person
Vicki R. Carr

Title/Position
Principal / Teacher

Contact Information
Phone: (831) 786-2180
Fax: (831) 786-2192
E-mail: vicki_carr@pvusd.net

Grade Level(s) for which course is intended
Grade 11

Length of Course
☐ Semester X Year ☐ Other

Unit Value
- ❑ 0.5 (half year equivalent)
- X 1.0 (one year equivalent)
- ❑ 2.0 (two year equivalent)
- ❑ Other: _____

Date of School Board Approval

Seeking "Honors" distinction?
☐ Yes X No

Was this course previously approved by UC?
☐ Yes X No
If so, in what year? _____ Under what course title? _____

Pre-Requisites
None

Co-Requisites
None

Brief Course Description

This is a required 11th grade class that must be passed to qualify for graduation. Students will examine the major turning points in American history in the 20th century. They will review the nation's beginnings, democratic ideals, and industrial transformation. They will cover a series of thematic units: the Progressive Era, the Jazz Age, the Great Depression, World War I, World War II, the Cold War, Civil Rights Movement, the Vietnam Era, and contemporary American society.

COURSE CONTENT

Course goals and/or major student outcomes

Students in U.S. History will demonstrate knowledge and skills as they work toward the school-wide goals of becoming:

- Self-directed learners, who can identify a task and complete it
- Complex thinkers, who can determine solutions to problems
- Quality producers, who produce work of which they will be proud
- Community contributors, who will become productive members of society

Students will further develop the skills of reading, writing, discussion, technology, and analysis through essays and two research projects.

Course objectives – students will meet the state standards for U.S. History

1) Students analyze the significant events in the founding of the nation and its attempts to realize the philosophy of government described in the Declaration of Independence.

2) Students analyze the relationship among the rise of industrialization, large-scale rural-to-urban migration, and massive immigration from Southern and Eastern Europe.

3) Students analyze the role religion played in the founding of America, its lasting moral, social, and political impacts, and issues regarding religious liberty.

4) Students trace the rise of the United States to its role as a world power in the twentieth century.

5) Students analyze the major political, social, economic, technological, and cultural developments of the 1920s.

6) Students analyze the different explanations for the Great Depression and how the New Deal fundamentally changed the role of the federal government.

7) Students analyze America's participation in World War II.

8) Students analyze the economic boom and social transformation of post-World War II America.

9) Students analyze U.S. foreign policy since World War II.

10) Students analyze the development of federal civil rights and voting rights.

11) Students analyze the major social problems and domestic policy issues in contemporary American society.

Course outline

Instructional Units

I. Our Nation's Beginnings/Democratic Ideals
   A. Major Topics
      1. Geographic Perspective on History
      2. Rise of Democratic Ideas
      3. American Revolution
      4. Constitution / Bill of Rights
      5. Civil War and Reconstruction

II. Industrial Transformation
   Major Topics
      1. Slavery and Politics
      2. Civil War and Reconstruction

1. Rise of Industrialism
2. Populism and Protest

I. Progressive Era
   Major Topics
   1. Social Reform
   2. Religious Liberty
   3. Progressivism
   4. Expansionism
   5. Becoming a World Power

II. World War I
   Major Topics
   1. Becoming a World Power
   2. Open Door Policy
   3. Spanish-American War
   4. Political, social, and economic ramifications

III. Jazz Age
   Major Topics
   1. Prosperity and American Business
   2. Changing Nature of Work
   3. Growth of Middle Class
   4. Cultural Conflicts
   5. 19th Amendment and Change

IV. The Great Depression
   Major Topics
   1. The Crash
   2. Life During the Depression
   3. The New Deal

V. World War II
   Major Topics
   1. The Road to War
   2. Mobilizing the Home Front
   3. The War and Social Change
   4. The War and Civil Rights
   5. The Atomic Bomb
   6. The Marshall Plan

VI. The Cold War
   Major Topics
   1. Postwar Foreign and Domestic Policies
   2. Postwar Economy

VII. Civil Rights Movement
   Major Topics
   1. The Civil Rights Struggle
   2. The Supreme Court and Civil Liberties
   3. Kennedy and Johnson Years
   4. Voices of Protest
   5. Counterculture

VIII. Vietnam Era

Major Topics

1. War in Southeast Asia
2. The War at Home
3. Watergate

IX. Contemporary American Society

Major Topics

1. Major Social Problems and Domestic Policy Issues (i.e. education, immigration, civil rights, economy, environment, drugs, poverty, family structure)

1. A Changing Nation in a Changing World
2. Information Age

Texts & supplemental instructional materials

A. Students will collaborate with teacher to choose the appropriate text from the following:
   - American Odyssey, Glencoe/McGraw-Hill
   - United States History, Globe-Fearon

B. Students will read literature and primary source material including, but not limited to:
   - Declaration of Independence
   - Constitution of the United States
   - Abraham Lincoln: The Emancipation Proclamation, Gettysburg Address
   - Excerpts From: *Castaways*, by Alvar Nunez Cabeza De Vaca; *Roots*, by Alex Haley; *Sister Carrie*, by Theodore Dreiser; *The Jungle*, By Upton Sinclair; *The Great Gatsby*, by F. Scott Fitzgerald; *The Grapes of Wrath*, by John Steinbeck; *Dispatches from the Front*, by Ernie Pyle; *The Book of Daniel*, By E. L. Dotorow; *Voices of Change*—Poetry by Marge Piercy, Alice Walker, and Richard Olivias; *Born on the Fourth of July*, Ron Kovic; *"Double Face" From The Loy Luck Club*, By Amy Tan.
   - Martin Luther King, Jr., I Have a Dream
   - Various speeches by American Presidents (i.e. domestic policy speeches by Truman, Eisenhower, Kennedy, Johnson, Nixon, Carter, Reagan, Bush, and Clinton)
   - Supreme Court Decisions (i.e. Fred Korematsu v. United States of America, Brown vs. Board of Education, Dred Scott v. Sandford, Plessy v. Ferguson)

C. At least four videos on U.S. History topics will be chosen from the PCCS collection, our local library, or other source (videos may be selected by the student with the approval of the supervising teacher).

Instructional methods and/or strategies

A. Primary instructional methods/strategies
   - Student will work independently through the thematic units using the text as a primary resource. Students will summarize each unit and answer questions about each unit.
   - Students will write well-developed essays that indicate their achievement of the state standards for U.S. History. Essay questions are modeled after those recommended in History-Social Science Content Standards for California Public Schools: Kindergarten Through Grade Twelve (California Department of Education, 2000).
   - Students will read a variety of literature and primary sources and respond critically.

B. Video Projects: Students will view and analyze in writing two videos each semester on U.S. History topics. Videos will be selected by the students and approved by the supervising teacher.

C. Research Projects: Students will complete one research project each semester on a topic of choice related to the thematic units. The project may take a variety of formats according to the interests of the student: a formal written report, a series of book reports on one topic, a poster, a newspaper, an historical fiction story, a play, a series of letters, etc. The topic and format must be approved by the supervising instructor. Each report must have at least three resources and include a bibliography. One of the resources should be electronic (i.e. CD-Rom, Internet, course-specific software). The projects should be completed using technology (i.e. word processing, desktop publishing, presentation software, graphic design software, etc.)

Assessment methods and/or tools

- Homework
- Quizzes

- Oral Examinations
- Final Examination
- Essays
- PVUSD Writing Rubric for Grades 6-12
- Portfolio
- Teacher observations
- Self-reflections

Assessment criteria

1. All written work will be corrected by student, parent, or teacher.
2. Teacher feedback will be given on all written work with student revision and rewrite as needed. There will be analysis of research projects based on criteria from the PCCS Research Project Outline.
3. A portfolio of assignments will be maintained by the student and by the teacher.
4. Tests will be used as appropriate.
5. Work, quizzes, and final exam must be completed at a 75% accuracy rate to receive credit.

FOR REFERENCE ONLY

OPTIONAL BACKGROUND INFORMATION

Context for Course

This U.S. History course is designed with flexibility to satisfy the PVUSD and State of California standards and guidelines and meet the unique individual interests and needs of Pacific Coast Charter School (PCCS) students. It is a core course required for graduation. Through this course, students continue to work toward our school's goals, also known as our expected school-wide learning results.

History of Course Development

PCCS staff collaborated on the content of this course description. We based it on descriptions from other PVUSD high schools, incorporating state standards and using essays developed and published by the California State Department of Education to demonstrate students' acquisition of standards. By using standards as the course objectives, students have a clear understanding of the core learnings required and then use their selected text and a variety of supplementary materials to acquire knowledge. Students demonstrate acquisition of knowledge and skills through responses to essays from History-Social Science Content Standards for California Public Schools, Kindergarten Through Grade Twelve (California Department of Education, 2000) and through special projects designed to encourage extend their knowledge of U.S. History, social studies and research skills, self-directed learning and personal goal-setting.

ATTACHMENT 6

Attachment 6:

University of California's 2007 A-G Guide

University of California

2007 Guide to "a-g" Requirements and Instructions for Updating Your School's "a-g" Course List

This guide provides comprehensive information about the "a-g" subject area requirements and the process for updating the school's list of approved courses for the 2007-08 academic year. We recommend that you become familiar with the information and share it with the teachers, counselors, and administrators at your school site.

All information in this guide is also available online at www.ucop.edu/doorways/guide .

CONTENTS

Policy Clarifications and Course List Adjustments for 2007-08

UC continues to implement changes that streamline and improve the course list update and course approval processes, improve communications with you and your staff, and develop resources to assist schools in developing and submitting new courses for approval. The section below provides helpful clarifications and explains recent course list adjustments necessary to align with UC policy.

UC Policy Updates.

1. **Online Learning / Distance Education.** In October 2006, UC faculty approved a much anticipated policy that determines the criteria and process by which online courses may be utilized by students to satisfy the "a-g" subject requirements. The policy represents several steps: (i) an online provider must apply to UC for "program status," (ii) once the provider is granted "program status", it can submit online courses/curricula to UC for "a-g" approval, and (iii) once those courses are granted approval, a program course list will be created on the Doorways web site and students will be able to use these approved courses for eligibility. However, it will likely take many months for the first set of online providers to be granted program status. Additional time will also be needed to receive and approve online courses and establish course lists for the providers. Since this process will take an extended period of time to implement, UC will continue the policy and procedure used in recent years – i.e., accept any pre-approved courses offered by UCCP and/or Cyber High, and recognize the completion of other college preparatory online courses if the high school principal certifies that the course is comparable to college preparatory curricula offered at the school site and ensures that the course and associated grades and credits are listed on the student's transcript. *Important Note: UC will not accept any online courses in the areas of visual and performing arts (VPA) or laboratory science, unless science courses require an on-site wet lab component.* The complete online policy is available on the "a-g" Guide web site, in both the What's New? and FAQ sections.
2. **Non-Site-Based Independent Study.** UC faculty is discussing a policy to clarify the conditions under which non-site-based independent study schools and programs would be eligible to establish and maintain an "a-g" course list. Among the discussion items is a policy that would require that students (a) to spend some time at the school site, (b) have regular interaction with teachers who are experts in the discipline of study, and (c) take exams and other major assessments under the eye of a proctor. Currently, all new schools, including independent study schools, begin the process of establishing a course list by completing a "New School Information Sheet," accessible on the "a-g" Guide web site at www.ucop.edu/doorways/guide.
3. **WASC Accreditation.** In December 2002 UC faculty approved a policy that requires all public and private high schools to be WASC-accredited (or a candidate) in order to establish and/or maintain an "a-g" course list. That policy went into full effect in June 2006. Those schools that have opted to pursue WASC accreditation during the '06-07 academic year will be granted one year of leniency.
4. **VPA Policy Implementation.** In 1999 UC faculty approved the addition of a year of visual and performing arts course work for students to become eligible for UC admissions. That policy had a lengthy implementation timeline and went into full effect in June 2006. A handful of schools have not yet come into compliance by offering year-long curricula in the arts. UC is working with these schools to make the necessary changes so that their students continue to be UC-eligible.
5. **Validation Changes.** The University uses a process known as validation that allows students to clear, or validate, a course omission or "D" or "F" grade in certain subject areas. In 2004 UC faculty clarified a couple of validation rules: (a) a passing grade in the second semester of chemistry will no longer validate a "D" or "F" grade in the first semester, and (b) statistics will no longer validate geometry, but will continue to validate beginning and intermediate algebra. Both of these validation rule changes take effect for students graduating high school and entering UC in 2007.

UC Procedural Updates.

UC continues to improve its articulation procedures as well as the accuracy of schools' "a-g" course lists, ensuring that they are consistent with UC faculty policies. Items below represent recent and upcoming activity.

1. **VPA Courses.** In coordination with the full implementation of the VPA policy (see item #4 above) UC articulation staff has moved and/or removed all *semester* VPA courses from the "f" VPA area, as they no longer satisfy the requirement. Advanced *semester* VPA courses were moved to the "g" elective area and introductory *semester* VPA courses were removed from "a-g" course lists altogether.

2. **Honors Courses.** In order to comply with faculty policy, UC articulation staff continues to insist that schools change course titles of AP and IB courses to reflect the standard titles designated by The College Board and the International Baccalaureate Organization, respectively. Please refer to the AP and IB program course lists on the Doorways web site at www.ucop.edu/doorways/list for standard titles and, if you have not done so already, make related adjustments during the upcoming course list update cycle.

3. **Methods of Satisfying the Language Other than English (LOTE) Requirement.** UC offers several ways for students to satisfy the LOTE requirement. In the past year, we attempted to better articulate those methods so that students and counselors may feel freer to take advantage of them. The various options are represented in a table posted to the "e" LOTE area of the "a-g" Guide, at www.ucop.edu/doorways/guide.

4. **Program Status for CSU Early Assessment Program (EAP).** Among other valuable services, the CSU Early Assessment Program indicates to high school juniors their readiness for college-level English. If students need additional academic preparation, they can now take a new course entitled "Expository Reading and Writing" developed jointly by high school and CSU English faculty members. A standardized course description has been approved by UC faculty and satisfies the "b" English requirement. In June 2006, UC faculty granted "program status" for EAP, which allows any school that offers the EAP "Expository Reading and Writing" curriculum to quickly and easily add the course to their own "a-g" course list. If your school is interested in offering the course, please contact Nancy Brynelson, Co-Director, Center for the Advancement of Reading at (916) 278-4581. Detailed information on this course also is available at www.ucop.edu/doorways/guide.

5. **Ongoing Collaborations.** UC continues to collaborate with a wide range of secondary school constituents in order to stay abreast of current trends in high school education and promote smooth transitions to postsecondary institutions. The above policies in areas of online learning and independent / home study represent just a few of these efforts. In addition, in the past year, UC has worked with a group of journalism teachers to share mutual expectations for quality courses in that discipline, which resulted in the development of two model journalism courses, viewable on the "a-g" Guide web site, at www.ucop.edu/doorways/guide. UC faculty and staff continue to work with career-technical educators (CTE) to promote integration of academic and career-technical course content in ways that promote "a-g" approval for CTE courses. UC faculty has also worked with regional ROP programs to help design and approve an "Introduction to Education" course. This course can also be viewed at www.ucop.edu./doorways/guide. UC continues to work with charter schools, early/middle college high schools, small schools, and others in the course approval process. We look forward to continued collaborations so that together we may support an increasing number of California youth to successfully transition from high school to post-secondary education and training.

eb Site Enhancements.

Enhancements to the "a-g" Guide Web Site (at www.ucop.edu/doorways/guide). We continue to update the "a-g" Guide web site with "What's New" items, Frequently Asked Questions (FAQs), etc. In 2006, we improved functionality of the Cadre of Experts section of the site, and will continue to do so in the coming year. The trained, resourceful Cadre members are available to provide assistance with the course approval process to teachers, counselors, and administrators who seek guidance. Cadre members are now sorted not only by region, but also by county, school type, role, and area of expertise.

Enhancements to the "a-g" Online Update Web Site (at www.ucop.edu/doorways/update). The "a-g" Online Update web site is now in its sixth year of operation. In 2005-2006 100% of schools updated their "a-g" course lists online. Thank you. This has made the review process faster and more accurate. This year, the site will be available beginning January 16, 2007 for 2007-08 course list updates.

Enhancements to the "a-g" Course List Web Site (at www.ucop.edu/doorways/list). The Doorways course list web site now includes additional general information about your school (CDS code, WASC term of accreditation, school type, special programs, and more).

Purpose, responsibility, and general criteria for the "a-g" requirements

The purposes of the "a-g" subject area requirements are to ensure that entering students

- Can participate fully in the first year program at the University in a broad variety of fields of study;
- Have attained the necessary preparation for courses, majors and programs offered at the University;
- Have attained a body of knowledge that will provide breadth and perspective to new, more advanced studies; and
- Have attained essential critical thinking and study skills.

The following general criteria must be satisfied for courses to meet the requirement:

- Be academically challenging;
- Involve substantial reading and writing;
- Include problems and laboratory work, as appropriate;
- Show serious attention to analytical thinking as well as factual content; and
- Develop students' oral and listening skills.

The Board of Admissions and Relations with Schools (BOARS) establishes the subject areas and pattern of courses required for minimum eligibility for freshman admission to the University of California. BOARS is a committee of the University's Academic Senate and includes faculty representatives from each campus of the University. The Academic Senate has been given the responsibility from the UC Regents to set the conditions for admission, subject to final approval of the Board of Regents.

The California State University system has agreed to accept courses certified by the University of California to meet its subject area requirements.

General Requirements by Subject Area

The following sequence of high school courses is required by the Academic Senate of the University of California as appropriate for fulfilling the minimum eligibility requirements for admission to the University of California. It also illustrates the minimum level of academic preparation students ought to achieve in high school to undertake university level work.

The "a-g" requirements can be summarized as follows:

(a) **History / Social Science** – Two years, including one year of world history, cultures, and historical geography and one year of U.S. history or one-half year of U.S. history and one-half year of civics or American government.

(b) **English** – Four years of college preparatory English that include frequent and regular writing, and reading of classic and modern literature.

(c) **Mathematics** – Three years of college preparatory mathematics that include the topics covered in elementary and advanced algebra and two- and three-dimensional geometry.

(d) **Laboratory Science** – Two years of laboratory science providing fundamental knowledge in at least two of these three disciplines: biology, chemistry, and physics.

(e) **Language Other Than English** – Two years of the same language other than English.

(f) **Visual & Performing Arts** – One year, including dance, drama/theater, music, or visual art.

(g) **College Preparatory Elective** – One year (two semesters), chosen from additional "a-f" courses beyond those used to satisfy the requirements above, or courses that have been approved solely for use as "g" electives.

Specific Subject Area Requirements

(a) HISTORY / SOCIAL SCIENCE

Two units (equivalent to two year-long courses or four semesters) of history / social science courses are required. Coursework must include

- **World History, Cultures, and Historical Geography** – One year, which can be met by a single integrated course or by two one-semester courses that are not predominately U.S. History; and
- **U.S. History / American Government (Civics)** – One year of U.S. History, or one-half year of U.S. History combined with one-half year of American Government (civics)

NOTES:

1. A wide variety of courses may be used. Courses should be empirically based and promote critical thinking and questioning regarding historical events and perspectives.
2. World History courses do not need to cover every culture or period in the history of humankind. For example, a suitable course could be an in-depth study of a single culture, such as a yearlong study of Chinese civilization. Alternatively, several cultures might be studied and compared, as in more traditional world history, culture, and historical geography courses.
3. World History/non-U.S. History courses may also address trans-cultural or trans-regional studies, including migration, immigration, and other sociological and cultural movements.
4. U. S. History courses may present and analyze historical events and movements with a particular focus such as science and technology in the development of American society; gender and family in American life; war, diplomacy, and international relations; and the comparative study of racial and ethnic groups in the United States. However, the course should cover the full span of American history, be embedded in the wider context of U.S. history, and carefully avoid isolating particular groups from the larger society of which they are a part.

(b) ENGLISH

Four units (equivalent to four year-long courses or eight semesters) of college preparatory composition and literature are required. Both reading and writing components must be included in the courses.

- **Reading.** Acceptable courses must require extensive reading of a variety of literary genres, including classical and/or contemporary works. Reading assignments must include full-length works. Excerpts from anthologies, articles, et cetera, can be supplemental but cannot constitute the main component of reading assignments.
- **Writing.** Courses must also require substantial, recurrent practice in writing extensive, structured papers. Student must demonstrate understanding of rhetorical, grammatical, and syntactical patterns, forms, and structures through responding to texts of varying lengths in unassisted writing assignments.

NOTES:

1. It is expected that courses appropriate for the final year (12th grade) of high school study will demand a substantially higher level of reading and writing requirements and skills outlined above. Prior to the 12th grade, students may complete ESL/ELD courses (up to one year in fulfillment of the "b" requirement); while unusual, in rare cases, the ESL/ELD course may be completed after a college-prep English course if there is evidence that the student would benefit academically from the course. (Refer to the section of this document "ELD, ESL, Sheltered and SDAIE courses.")
2. For expected competencies in English reading and writing, consult the following resources:
   - "An Information Booklet for the Advanced Writing Placement Examination" (formerly "Subject A Examination") for discussion of writing standards and examples of acceptable college freshman-level scored essays (www.ucop.edu/sas/sub-a/).
   - "Academic Literacy: A Statement on Competencies Expected of Entering Students to California's Public Colleges and Universities" (Spring 2002) for a description of the language arts material that almost all regularly admitted freshmen have learned (www.universityofcalifornia.edu/senate/reports/acadlit.pdf).

3. English Language Development (ELD) courses, including SDAIE (Specially Designed Academic Instruction in English) and /or Sheltered English language arts courses, may be acceptable for a maximum of one unit (equivalent to one year), provided they are advanced college preparatory courses with strong emphasis on reading and writing. Such courses must specifically deal with rhetorical, grammatical, and syntactical forms in English, especially those that show cross-linguistic influence, and must provide explicit work in vocabulary development. A second year of approved ELD coursework may meet one year of the college preparatory elective requirement described below.
4. Sheltered/SDAIE English courses that are identical to the college preparatory English courses can be considered as satisfying the English requirements with no unit limitations.
5. Courses in speech, debate, creative writing, drama, or journalism do not meet the "b" English requirement, but may meet the "g" elective requirement as described under college preparatory electives. In order for these courses to meet the elective requirement, they must require substantial reading and writing, including expository writing.
6. There are different options of satisfying the "b" requirement for students with international and domestic records.
7. There is a one unit maximum credit allowed of ESL/ELD courses that students could use to meet the "b" requirement.

MATHEMATICS

Three units (equivalent to three one-year courses) of college preparatory mathematics are required. Four units are strongly recommended.

- Elementary Algebra.
- Geometry. Courses must include topics in two- and three-dimensional geometry.
- Advanced Algebra.

NOTES:

1. This requirement may be met by completing three one-year courses in algebra, advanced algebra, and geometry.
2. Alternatively, this requirement may be met by completing a three-course sequence in integrated mathematics (e.g., Integrated Math Program – IMP). If a student has completed only part of the sequence, the following combinations are acceptable:

   IMP I + Geometry + Algebra II

   IMP I + IMP II + Algebra II

   Algebra I + IMP II + Algebra II

   Algebra I + IMP II + IMP III

   Algebra I + Geometry + IMP III
3. One-year mathematics courses (e.g., algebra) taken over three or four semesters are acceptable to meet the "c" Mathematics requirement, but credit will be granted for only one year (two semesters) of work. For students utilizing this pattern, all grades awarded by the school are averaged in the GPA calculation.
4. Validating Requirements with Advanced Work. Completion of advanced course work in areas of sequential knowledge, specifically language other than English and specific mathematics courses with a grade of "C" or higher validates an earlier grade of 'D/F' as specified below:

   Algebra II (Intermediate Algebra) validates Algebra I

   Trigonometry validates Algebra I, II and Geometry

   Algebra II/Trigonometry (year course) validates Algebra I, Algebra II and Geometry. If only the first semester is completed – Algebra II – then only Algebra I is validated.

   Statistics validates Algebra I and Algebra II (but not Geometry)

5. Although only three years are required, four years are strongly recommended. Among regularly admitted freshmen, most complete a mathematics course in each grade from 9th through 12th.
6. The 1997 version of the *Statement on Competencies in Mathematics Expected of Entering College Students* can be downloaded from the UC Academic Senate's web page at www.universityofcalifornia.edu/senate/reports/mathcomp.html.
7. Traditionally, most entering college freshmen have taken pre-calculus and often calculus; however, other advanced courses such as statistics and discrete mathematics can also deepen students' understanding of mathematics.
8. The Calculus Readiness tests of the Mathematics Diagnostic Testing Project (MDTP) provide a good indication of the skill attainment upon completing a pre-calculus course. All UC campuses use these tests to determine student placement into calculus. MDTP also provides diagnostic readiness tests for other college preparatory secondary mathematics tests to California teachers and schools. For more information on MDTP, visit the MDTP website at http://mdtp.ucsd.edu or contact Donna Ames at (858) 534-4519.
9. Students who take calculus in high school are encouraged to take one of the Advanced Placement (AP) Calculus Examinations in order to place out of the comparable college calculus course.
10. College prep courses in mathematics taken in 7th and 8th grades with grades of "C" or higher may be counted toward the subject requirement. However, the principal of the high school from which a student graduates must certify on the transcript that the 7th and 8th grade courses are comparable in content to those offered at the high school. This certification is indicated by the high school awarding grades and credits on the transcript for the 7th and 8th grade courses. Alternately, when an applicant has successfully completed advanced work in an area of sequential knowledge (mathematics, language other than English) with a grade of "C" or higher, the student is presumed to have completed the earlier course work even if the earlier courses do not appear on the student's academic record.

d) LABORATORY SCIENCE

wo units (equivalent to two one-year courses) of laboratory science are required; three units are strongly recommended. The rpose of the laboratory science requirement is to ensure that entering UC freshmen have a minimum of one year of preparation n each of at least two of the foundational subjects of biology, chemistry, and physics. This requirement can be satisfied by king two courses from among these specific subject areas. However, other courses may also qualify, if they provide a core et of knowledge in one of the three foundational subjects.

ertification Categories. Generally, courses that are suitable for satisfying the minimum requirement will fall into one of ree categories:

1. College preparatory courses in biology, chemistry, or physics.
2. College preparatory courses which may incorporate applications in some other scientific or career-technical subject area, but which nonetheless cover the core concepts that would be expected in one of the three foundational subjects. A few examples could include some courses in marine biology or agricultural biology, which may qualify as providing appropriate content in basic biology; and some advanced courses in earth and space sciences, which may provide suitable coverage of chemistry or physics. These are only examples; other possibilities exist. However, it is emphasized that courses in this second category must cover, with sufficient depth and rigor, the essential material in one of the foundational subjects in order to qualify for "d" certification.
3. The last two years of three-year sequences in Integrated Science, where rigorous coverage of at least two of the foundational subjects is provided.

dditional courses beyond the required minimum of two may be drawn from a fourth category:

4. Advanced courses in any scientific subject area which depend on (i.e., build upon while offering substantial new material), and specify as prerequisite, one or more courses from categories 1-3.

ower-level / introductory science courses that do not specify prerequisite courses from categories 1-3 above, and do not ddress a majority of concepts that would be expected in any one of the foundational subjects, will be considered for ertification in the "g" elective area. Examples of courses that would normally fall into this category include environmental cience, physical science, earth science, and Integrated Science 1.

Certification Criteria. To be considered for certification in the "d" subject area, a course must:

- specify, at a minimum, elementary algebra as a prerequisite or co-requisite;
- take an approach consistent with the scientific method in relation to observing, forming hypotheses, testing hypotheses through experimentation and/or further observation, and forming objective conclusions; and
- include hands-on scientific activities that are directly related to and support the other classwork, and that involve inquiry, observation, analysis, and write-up. These hands-on activities should account for at least 20% of class time, and should be itemized and described in the course description.

NOTES:

1. There is no preferred order to the sequence of courses that cover the foundational subject areas.
2. Students who have successfully completed a three-year integrated-science sequence will have met the two-year "d" requirement as well as the one-year "g" elective requirement. Students electing to enroll in an integrated-science program (ISP) are strongly advised to complete the entire three-year sequence. In most cases, the first year of an integrated-science sequence fulfills only the "g" elective requirement; the second and third years of the sequence then fulfill the two-year "d" laboratory science requirement. Accordingly, if only ISP I is successfully completed, then two courses from category 1 and 2 above must be completed. If ISP I and only one of ISP II or ISP III are completed, then one additional course from categories 1 or 2 above must be taken to fulfill the "d" requirement. If a student completes only part of the sequence, the following combinations may be used to meet the requirement:

   ISP I + ISP II + one from Biology, Chemistry, or Physics

   ISP I + two from Biology, Chemistry, or Physics

   ISPI + one from Biology, Chemistry, or Physics + ISP III

   Introductory Science such as Earth Science, Physical Science, Environmental Science (non-AP) + ISP II + ISP III

3. Online courses may be approved for credit toward the "d" requirement if they meet all the guidelines outlined above, including a supervised hands-on laboratory component comprising at least 20% of the course (e.g., UCCP courses)
4. Chemistry can no longer be validated.

(e) LANGUAGE OTHER THAN ENGLISH

Two units (equivalent to two, one-year courses) of coursework in a single language. Three units are recommended.

- **Minimum Performance Objectives.** Courses should emphasize speaking and understanding, and include instruction in grammar, vocabulary, reading, and composition. At this level, emphasis should *not* be on the ability to describe grammatical features of the language. In any language studied, the minimum performance objectives after two years of high school study should be the following:
  - The ability to sustain a brief conversation on simple everyday topics demonstrating good use of the whole sound system (good pronunciation), and the basic structural patterns in the present, past, and future tenses, the subjunctive, and commands
  - Summarize orally and in writing the main points of a relatively simple reading passage not involving specialized vocabulary

NOTES:

Classical languages (e.g., Latin, Greek) are acceptable to fulfill the "e" requirement.

American Sign Language (ASL) is a natural language and can be used to fulfill the "e" requirement, but signing English is not acceptable and will not satisfy the requirement.

College prep courses in languages taken in 7th and 8th grades with grades of "C" or better may be counted toward the subject requirement. However, the principal of the high school from which a student graduates must certify on the transcript that the 7th and 8th grade courses are comparable in content to those offered at the high school. This certification is indicated by the high school awarding credits on the transcript for the 7th and 8th grade courses. Alternately, when an applicant has successfully completed advanced work in an area of sequential knowledge (mathematics, language other than English) with a grade of "C" or higher, the student is presumed to have completed the earlier course work even if the earlier courses do not appear on the student's academic record.

Certification of Competence in Language Other than English

The intent of the "e" requirement (languages other than English) is to ensure that freshmen have a minimal level of competence in a language other than English; this level corresponds to what is normally expected of a student who has completed two years of high school study with grades of "C" or better. Generally, bilingual students are considered to have met the "e" requirement and may choose not to enroll in language other than English courses. These students may be better served by enrolling in additional electives or, if their English is limited, English as a Second Language. Students who elect not to take language other than English courses must certify satisfaction of the "e" requirement by one of the following methods:

- Earning a satisfactory score on a recognized test (such as an SAT II: Subject Test, Advanced Placement test or Higher Level International Baccalaureate exam) or a proficiency test administered by a UC campus or another university;
- Two years of formal schooling at the sixth-grade level or higher with grades of "C" or better in an institution where the language of instruction is other than English;
- In cases where the options above are not available, certification by the high school principal, based on the judgment of language teachers, advice of professional or cultural organizations with an interest in maintaining language proficiency or other appropriate source of expertise.

VISUAL AND PERFORMING ARTS

One unit (one year-long course) required in any of the following categories: dance, drama/theater, music, or visual art.

- **Intention.** The intention is to provide a meaningful experience and breadth of knowledge of the arts so that students may apply their knowledge and experience to the creation of art and are better able to understand and appreciate artistic expression on the basis of that experience and knowledge.

  The intent of approved VPA courses must be directed at acquiring concepts, knowledge, and skills in the arts disciplines, rather than to utilize artistic activities to fulfill non-artistic course objectives.
- **Prerequisites.** Acceptable courses need NOT have any prerequisite courses.
- **Co-Curricular Work.** Work outside of class must be required, for example, portfolio/performance preparation, reading, writing, research projects, and/or critical listening/viewing.
- **Course Repeats.** All approved performance, production or studio classes, introductory and advanced, may be taken more than one time and all grades earned in 10th and 11th grade will be included in the coursework considered for eligibility and admissions purposes. Repeated classes of this type are not subject to restrictions placed on a course that is being repeated due to a subject deficiency.
- **Course Standards.** Courses should provide students with an experience in the arts that implements the intent of the California State Board of Education approved Visual and Performing Arts (VPA) Content Standards. Curriculum must be designed to include the VPA Content Standards at, at least, the proficiency level in each of the five component strands. Each VPA course shall sufficiently address the state content standards under all five component strands, listed below.

  1. ***Artistic Perception***: Processing, analyzing, and responding to sensory information through the language and skills unique to a given art.
  2. ***Creative Expression***: Creating, performing, and participating in a given art.
  3. ***Historical and Cultural Context***: Understanding historical contributions and cultural dimensions of a given art.

4. *Aesthetic Valuing*: Responding to, analyzing, and making critical assessments about works of a given art form.

5. ***Connections, Relationships, and Applications***: Connecting and applying what is learned in a given art form to learning in other art forms, subject areas, and careers.

For a more detailed description of the VPA Standards, go to www.cde.ca.gov/shsd/arts/standards.htm .

- **Acceptable and Unacceptable Courses.** Courses which are primarily recreational, athletic or body conditioning, or for social entertainment, are NOT acceptable visual or performing arts courses. Commercial courses or courses specifically designed for training for a profession in these areas are not acceptable. See specific examples below.

  - **Dance.** *Examples of acceptable courses include* ballet, modern dance, jazz, and ethnic dance, choreography and improvisation, dance history, dance production/performance. *Examples of unacceptable courses include* aerobics, drill team, cheerleading, recreational dance, and ballroom dance.

  - **Drama / Theater.** *Examples of acceptable courses include* acting, directing, oral interpretation, dramatic production, dramaturgy/history/theory, and stage/lighting/costume design. *Examples of unacceptable courses include* speech, debate, or courses in other disciplines that require students to perform occasional skits.

  - **Music.** *Examples of acceptable courses include* band (concert, symphonic, jazz), orchestra, choir (e.g., concert, jazz, soul, madrigal), music history/appreciation, and music theory/composition. *Examples of unacceptable courses include* a musical group, which performs primarily for sporting events, parades, competitive field events, and/or community/civic activities.

  - **Visual Art.** *Examples of acceptable courses include* painting, drawing, sculpture, art photography, printmaking, video/film production as an art form, contemporary media, ceramics, and art history. *Examples of unacceptable courses include* craft courses, mechanical drafting, web page development, yearbook, and photography offered as photojournalism (i.e., as a component of yearbook or school newspaper publication).

  For further clarifications of the four categories, see Policy Clarifications below.

- **Policy Clarifications**

  - **Performance, Production, and Studio Courses.** Courses emphasizing performance and/or production (e.g., drama, dance, music, visual arts, and video production) must include appropriate critical/theoretical and historical/cultural content, as referenced in the state VPA Content Standards. Such courses should emphasize creative expression, not rote memorization and/or technical skills.

  - **Appreciation, History, and Theory Courses.** Appreciation, history, and theory courses should focus on the ability to make aesthetic judgments about art works and performances and must include all component strands of the state VPA content standards, including creative expression.

  - **Design Courses.** Visual and performing arts courses in design are expected to provide substantial time for students to understand, learn, and experience the elements of art and principles of design that underlie the medium/media addressed. Design courses must also include standards from all five component strands of the VPA content standards. (Refer to the Design Course Resources available on the a-g Guide web site.)

  - **Technology Courses.** Visual and performing arts courses that utilize technology must focus primarily on arts content. If the technology (i.e., software, equipment) is used as a tool of artistic expression, as a paintbrush would be used in a painting course, and all other component strands are adequately met, then such courses are acceptable. If the technology/software is so complex that the primary concern becomes learning the technology, then the course will not be approved to meet the VPA requirement.

- **Community College and University Transferable Courses.** The University of California will accept three semester unit (four quarter unit) UC-transferable college/university courses that clearly fall within one of the four disciplines of the arts (Dance, Music, Theatre, or Visual Arts). UC-transferable community college courses are listed at www.assist.org.

- **Honors Courses.** Designated Advanced Placement (AP) and International Baccalaureate (IB) courses are acceptable for UC honors credit. Three semester unit (four quarter unit) UC-transferable community college and university courses that clearly fall within one of the four disciplines of the arts are likewise acceptable for honors credit. A list of community college and CSU-transferable courses can be found at www.assist.org . Other honors

courses are acceptable if they meet the criteria described in the "Honors Level Courses" section of these Guidelines.

- **Private Study.** Private or community-based study in the arts will not qualify for approval to meet the VPA requirement. However, at the discretion of the teacher and consistent with school policy, private study in the arts, which includes standards-based comprehensive study in all five component strands, may serve as an adequate prerequisite for placement into advanced and/or honors level VPA courses. (See VPA honors section for further criteria guidelines.)
- **Independent Study.** Following school district approved guidelines, school-sponsored independent study in the arts may fulfill UC/CSU entrance requirements, if it is appropriately monitored by a faculty member, matches a concurrent UC/CSU approved high school course, and meets the "f" requirement guidelines as set forth in this document.
- **"g" Elective Courses.** Introductory semester VPA courses cannot be used to meet the "g" elective requirement. Advanced semester courses in the Visual & Performing Arts can be considered to meet the "g" requirement, but must also meet the criteria described in the "College Preparatory Elective Courses" section of this *Guide to a-g Requirements*.
- **Implementation Phase-in Timeline.** The VPA requirement was implemented beginning 2003.
  - Students entering after the fall of 2006 or later must satisfy the VPA requirement by completing an appropriate single course in a year-long sequence (i.e., the second semester must be the continuation of the first semester). If scheduling challenges demand, students may divide the year-long course in two different academic years, as long as the course curriculum is designed as a year-long sequence and approved as such by the University.

(g) COLLEGE PREPARATORY ELECTIVE COURSES

One unit (equivalent of two semester courses) required. Course(s) must fall within, or combine in an interdisciplinary fashion, the "a-f" subject areas.

The intent of the college preparatory elective requirement is to encourage prospective UC students to fill out their high school programs with courses that will meet one or more of a number of objectives:

- To strengthen general study skills, particularly analytical reading, expository writing, and oral communications;
- To provide an opportunity to begin work that could lead directly into a major program of study at the University; and
- To experience, in some depth, new areas of academic disciplines that might form the basis for future major or minor studies at the University.

Approved Elective Courses

Quality. All courses selected to meet the "g" elective requirement are expected to meet standards of quality similar to those required for the "a-f" requirements. Courses acceptable for the "g" elective area should be advanced courses designed for the 11th and 12th grade level and/or have appropriate prerequisites. Laboratory science courses intended for 9th or 10th graders (e.g., earth science, physical science, integrated science) are accepted as an exception to the advanced policy regulation. Elective courses should present material at a sufficient depth to allow students to achieve mastery of fundamental knowledge that prepares them for University work or a future career path.

Examples of Acceptable Elective Courses. Typical courses acceptable to fulfill the "g" elective area include economics, psychology, sociology, anthropology, political science, journalism, creative writing, speech and debate, computer programming, astronomy, agricultural science, biotechnology, environmental science, veterinary science, and others.

Advanced "a–f" Courses. Advanced courses listed on a school's "a-g" course list in the "a-f" areas that are above and beyond the minimal requirements for that subject area (e.g. pre-calculus, Spanish 3, jazz ensemble), may also be used by student to fulfill the one-year elective requirement.

- **Subject Specific Guidelines.**

History: Courses should enable students to establish a breadth of understanding of history (e.g., world history, political history, or economic history) and should provide an understanding of the human past, including its relation to the present. Courses should develop a student's ability to think critically, to evaluate historical data, and to analyze and synthesize evidence. All history courses should require extensive reading and writing.

Social Science: (Courses for the "g" area only) Courses should be in one of the social sciences: anthropology, economics, geography, political science, psychology, or sociology. Alternatively, courses could also be interdisciplinary in nature, drawing knowledge from two or more of these fields. Course objectives should include as many of the following as are applicable to the field: (1) an understanding of the development and basic features of major societies and cultures; (2) an examination of the historic and contemporary ideas that have shaped our world; (3) an understanding of the fundamentals of how differing political and economic systems function; (4) an examination of the nature and principles of individual and group behavior; and (5) a study of social science methodologies, and (6) an openness to a variety of cultures and perspectives. In order to develop a student's ability to think critically, to evaluate ideas and information, and to analyze and synthesize qualitative and quantitative evidence (in the laboratory or in the field), a social science course must include a body of basic knowledge, extensive reading, and written and oral exposition. Courses that are designed to meet state-mandated social studies graduation requirements are acceptable provided that they meet the above criteria. Courses with applied, service, or career-related content are acceptable only if those components are used to augment the strong academic content of the course.

English: Courses should require substantial reading with frequent and extensive practice in writing that is carefully evaluated and criticized, as noted in the "b" requirement (above). Courses in journalism, speech, debate, creative writing, or advanced-level ELD/ESL are acceptable electives if they meet the general requirements in reading and writing stated above.

Advanced Mathematics: Courses in mathematics with second-year algebra as a prerequisite such as trigonometry, linear algebra, pre-calculus (analytic geometry and mathematical analysis), calculus, probability and statistics are acceptable electives. A computer science course is only acceptable as an mathematics elective and if it fulfills the following objectives: (1) enables students to express algorithms in a standard language; (2) requires students to complete substantial programming projects; and (3) involves the study and mastery of various aspects of computer science (e.g., how computers deal with data and instructions, the internal components of a computer, and the underlying computer logic).

Laboratory Science: Acceptable courses should cover topics from the biological or physical sciences and include laboratory activities. A terminal course designed only to meet graduation requirements is not an acceptable science elective. In this subject area only, lower level courses (e.g., physical science, earth science) are often accepted as electives.

Language Other Than English: Elective courses in the same language used to satisfy the "e" requirement must have at least two years of the language as a prerequisite. In order for a second language other than English to qualify as an elective, at least two years of this language must be completed.

Visual and Performing Arts (VPA): Advanced courses in the Visual & Performing Arts can be considered to meet the "g" elective requirement but must still address the five component strands of the state VPA standards. Advanced courses should enable students to understand and appreciate artistic expression and, where appropriate, to talk and write with discrimination about the artistic material studied. Courses devoted to artistic performance and developing creative artistic ability should have prerequisites (either one year of introductory coursework or experience approved by the instructor) and should assume proficiency beyond the introductory level. Courses must require on the average the equivalent of a five-period class per week. Work outside of the class must be required (e.g., portfolio/performance preparation, reading, writing, research projects, and critical listening/viewing). Advanced VPA courses that are a semester in length, will only be considered for the "g" elective area, not the "f" VPA area, which must be satisfied by completing an appropriate, sequential, year-long course.

Honors level courses

The University grants special "honors" designation and extra credit in students' grade point average computation only to those high school honors level courses that meet the following criteria. The University strongly encourages that such courses be available to all sectors of the school population.

- **AP Courses.** Advanced Placement (AP) courses in the "a-g" subjects which are designed to prepare students for an Advanced Placement Examination of the College Board are automatically granted honors status, even if they

are offered at the 10th grade level (e.g., newly developed courses/exams in Human Geography and World History). For more information about AP, go to the College Board's web site at www.collegeboard.org/ap/ .

- **International Baccalaureate.** Designated International Baccalaureate (IB) courses offered by schools participating in the IB program are automatically granted honors status. For a list of IB courses that are granted honors status, search for the "International Baccalaureate" program list on the Doorways course list web site at www.ucop.edu/doorways/list . For more information about IB programs, go to www.ibo.org .
- **College Courses.** College courses in the "a-g" subjects that are transferable to the University of California. To determine whether a course is transferable, go to www.assist.org .
- **Other Honors Courses.** Other honors courses (that are not AP, IB, or college courses) specifically designed by the high school are acceptable *if they are in the disciplines of history, English, advanced mathematics, laboratory science, languages other than English, and advanced visual and performing arts* and have distinctive features which set them apart from regular high school courses in the same discipline areas. These courses should be seen as comparable in terms of workload and emphasis to AP, IB, or introductory college courses in the subject. Acceptable honors level courses are specialized, advanced, collegiate-level courses offered at the 11th and 12th grade levels. Please refer to the notes below for special requirements for the certification of these honors courses.

NOTES on honors courses other than AP and IB:

1. Honors level courses should have established *prerequisites*, as appropriate to the discipline. See subject specific explanations below.
2. Honors level courses must have a comprehensive, written *final exam*. The purpose of the final examination is to permit students to exhibit depth of knowledge and sustained mastery of subject material. The final examination permits each student to demonstrate knowledge that is acquired, integrated, and retained.
3. Honors level courses must be designed for *11th and 12th graders* who have already completed foundation work in the subject area. Ninth and tenth grade level high school courses that schools might designate as "honors" do not meet the UC honors level requirement and therefore are *not* granted special "honors" credit by the University. (Note: Tenth grade students who have the necessary preparation to complete UC designated honors courses (i.e., those designed for 11th and 12th graders) will receive UC honors credit, however, they will receive credit for not more than two units of these courses completed in the tenth grade.)
4. In addition to ninth and tenth grade courses, other courses that a school may designate as "honors" for local purposes but that do not fill the requirements stated in this section will not be granted special credit by the University.
5. In addition to AP and IB higher level courses, high schools may certify as honors level courses *not more than one unit in each of the following subject areas only*: history, English, advanced mathematics, each laboratory science, each language other than English, and each of the four VPA disciplines.
6. If there are no AP or IB higher level courses in a given subject area, the high school may certify up to, but not more than, two units at the honors level in that area. Exceptions to this rule require strong justification and documentation.
7. Most high school courses, which are not an AP or IB higher level course, shall be designated an honors level course only when there is a *regular course* offered in the same subject area at the same grade level. Exceptions to this rule require strong justification and documentation. See subject specific explanations below.

Descriptions for UC Approval of Honors Level Course by Subject

a) **History/Social Science.** UC approved honors level history / social science courses used to satisfy the "a" requirement characteristically consist of courses in U.S. government, U.S. history, European history, world history, world cultures, and geography. Such courses are expected to provide both breadth and depth of exploration in the subject area, developing writing, research, and analytical skills. The courses must offer content and/or experience that are demonstrably more challenging than what is offered through the regular college preparatory courses in the same field. Factors considered for UC approved honors courses that satisfy the "a" requirement include but are not limited to the assignment and evaluation of one long or numerous short, challenging, and properly-annotated research papers and a comprehensive final examination. The use of college-

level textbooks is encouraged. The regular college preparatory courses in the subject areas should be offered, as well.

b) **English.** UC-approved honors level courses in English should have as prerequisite at least two years of college preparatory composition and literature. Such courses should require extensive reading of poetry, prose, plays and novels chosen from a variety of historical periods and styles. The curriculum must emphasize advanced critical analysis and interpretation in order to develop sophisticated written arguments about assigned literature. Frequent writing assignments, especially of papers averaging 3-5 pages in length, should emphasize the stages of composing sustained arguments based on detailed textual analysis: pre-writing, drafting, revising. Writing instruction and carefully-designed prompts should aim at enabling students to express complex and interrelated ideas with clarity and a mature, sophisticated style. Regular feedback on written assignments is essential to the success of honors level courses. Regular college preparatory sections in English must also be available in the curriculum. The UC honors-approved courses must be demonstrably more challenging than regular college preparatory sections, requiring more extensive and challenging reading assignments; more frequent, complex, sustained writing assignments; and written examinations, including a comprehensive written final examination.

c) **Mathematics.** UC-approved honors level courses in mathematics must be at the mathematical analysis (pre-calculus) level or above. These courses should have three years of college preparatory mathematics as prerequisite work. Mathematical analysis that includes the development of the trigonometric and exponential functions can be certified for UC honors credit. If mathematical analysis is certified at the UC honors level, there should be a section of the regular college preparatory course offered, as well. The honors level course should be demonstrably more challenging than the regular college preparatory sections. Calculus, with four years of college preparatory mathematics as prerequisite, qualifies as an honors level course if it is substantially equivalent to an AP calculus course. Statistics, with a three-year mathematics prerequisite, may also be approved for honors credit if it is substantially equivalent to an AP statistics course. These two courses do not require a separate section in the regular college preparatory curriculum. Each UC-approved honors level course in mathematics must include a comprehensive final examination.

d) **Laboratory Science.** UC approved honors level courses in laboratory sciences are generally in the disciplines of biology, chemistry, and physics. Honors level courses in these disciplines typically require one year of prior laboratory science. Honors level courses in any other laboratory science (e.g., Environmental Science, Marine Biology, etc.) may also be considered for UC honors certification if they require a year of biology, chemistry, or physics, as well as at least algebra as prerequisites. The third course in an integrated science sequence may be considered for honors designation if it has the appropriate breadth, depth, and prerequisites. All UC-approved honors level laboratory science courses should be demonstrably more challenging than the college preparatory courses required as prerequisites. Topics covered and laboratory exercises must be in depth and involve analysis and research. Each UC approved honors level course must have a comprehensive written final examination including laboratory concepts. There should be a section of the regular college preparatory course offered for each UC-approved honors level laboratory science course.

e) **Language Other Than English.** UC-approved honors level courses in languages other than English must have as a prerequisite at least two years of college preparatory instruction in that language. Modern language courses should focus on the use of the language for active communication and provide advanced training in oral/aural proficiency and literacy skills. Courses should include instruction in grammar, culture, reading comprehension, composition, and conversation and should be conducted exclusively in the target language. Coursework should be developed around authentic texts from diverse genres, including literary works of art, recordings, films, newspapers, and magazines. There should be a comprehensive final examination that evaluates levels of performance in the use of both written and spoken forms of the language. Classical language courses should include as many of these elements as appropriate. If the third year of any language other than English is certified at the UC honors level, there should be a regular third-year college preparatory course offered, as well. A UC-approved honors course in a language other than English at the fourth or fifth year level must have as a prerequisite three or four years, respectively, of college preparatory instruction in that language and does not necessarily require a corresponding regular college preparatory section.

f) **VPA: General Criteria**

UC-approved honors level courses in Visual and Performing Arts (VPA) should have as a prerequisite at least two years of college preparatory work in the discipline or comparable (alternative) experience that includes all five component strands of the state-adopted VPA Content Standards.

Honors courses may be open to students who have not completed the prerequisite college preparatory work but whose preparation in the art form is at a high artistic level and who can demonstrate comprehensive knowledge in all five component strands of the art form. Alternative entrance into the honors level course shall be by audition/demonstration and a standards-based content exam (oral, written, or portfolio/performance).

Honors level courses should be demonstrably more challenging than regular college preparatory classes and study content in the art form that is of artistic and cultural merit and represents a variety of styles, genres, or historical periods. The curriculum must be comparable to college curriculum and target skills and conceptual development beyond the art form's advanced level of the VPA Content Standards. The curriculum must require in-depth written assignments that demonstrate student knowledge across the component strands. Each student must complete a variety of individual assessments with a comprehensive final examination that includes a written component as well as other assessment tools appropriate to the five strands of the art form and are representative of high levels of analysis and self-evaluation.

Honors level course work in the art form may not require a separate class section in the regular college preparatory curriculum. These courses necessitate a separate written curriculum documenting the additional breadth and depth expected as well as an explanation of the differentiated curriculum. The use of college-level textbooks is encouraged.

All VPA honors course work shall include advanced studies/projects, examples of which are listed for each specific arts discipline (Dance, Music, Theatre, and Visual Arts) in the sections below.

VPA Discipline-Specific Criteria:

In addition to the above general criteria, each separate arts discipline must include the following specific guidelines to qualify for honors credit.

- **Dance** courses at the honors level require students to demonstrate artistic superiority in multiple aspects of dance as an art form. Dance honors studies/projects may include but are not limited to sophisticated choreography including production collaborations, advanced written and oral research analysis, and advanced kinesthetic mastery and historical knowledge of many genres of dance. Critical self-analysis and peer review of projects may be broadened by technology resources, traditional and innovative documentation and recording (e.g., notation, virtual reality and/or simulation).
- **Music** course descriptions will delineate the honors level of achievement expected by the individual student as well as explicit descriptions of honors studies/projects that will be completed. These studies/projects may include but are not limited to solo and/or small ensemble performance, score analysis, musical composition and/or arranging, critical analysis of individual performances by others, critical self-analysis through portfolio development.
- **Theatre** courses at the honors level require students to demonstrate artistic leadership. Collaborative skills continue to be essential in students' work, but the honors distinction is that the individual takes the responsibility for organizing others to complete a theatrical performance project. The student must first qualify as an outstanding playwright, director, designer, dramaturg, actor, or stage manager, then must also serve as producer of the project or chief of a major area of production. Analysis of the honor student's project is required and must include a post-show critique, written or oral, of leadership skills conducted by the teacher and ensemble peers, and a critical self-analysis.
- **Visual Arts** course descriptions will define the high level of achievement expected by the individual student as well as suggested descriptions of honors visual arts projects. The honors level subjects/projects may include but are not limited to compiling a body of work at the mastery level in a particular arts medium, written research and analysis of a particular genre, style, or historical period. Critical self-analysis through portfolio development, solo exhibition of original work, and verification of honors achievement level relevant to the art form, is required.

ELD, ESL, Sheltered and SDAIE courses

Advanced level (i.e., CELDT levels 4 and 5) English Language Development (ELD) and/or English as a Second Language (ESL) courses may be approved to meet the "b" English requirement. Courses at this level must include college preparatory composition and literature comparable to other mainstreamed college preparatory English courses (described above in the "b" English specific requirements section). When applying to the University, students can use only one year of UC-approved ELD/ESL course work to meet their 4-year English requirement for UC eligibility.

Sheltered and SDAIE (Specially Designed Academic Instruction in English) courses may be used to satisfy the "a-g" subject requirements. As sheltered and SDAIE courses simply refer to the instructional methodology (rather than course content), it is expected that sheltered/SDAIE courses in all subject areas would be *equivalent* in content and skill development to comparable courses taught in the same subject area (i.e., Sheltered Algebra should be equivalent to Algebra 1; SDAIE English 11 should be equivalent to English 11).

Interdisciplinary and/or integrated courses

Interdisciplinary and/or integrated programs may be used to satisfy one or several of the subject requirements. For example, an integrated Humanities program may be used to satisfy part of the "a," part of the "b," and part of the elective requirements. When these interdisciplinary / integrated courses are submitted for review and certification, please indicate clearly which subject area requirements are satisfied by the course.

We understand that many schools are guided by reform initiatives that encourage the integration of academic and career-related content to form courses that are both rigorous and relevant. These rigorous applied academic courses may be approved by UC if teachers focus on the academic content, using the career-related content as an application and extension of the core knowledge taught in the academic area.

As noted above in the detailed description of the "elective" requirement, interdisciplinary electives are also acceptable.

Updating the school's course list

UC requests that all schools (and/or districts) submit their course list updates electronically (at www.ucop.edu/doorways/update).

New Schools: New schools (or existing schools) wishing to establish an a-g course list for the first time should go to the "New School Submission" tab of the a-g Guide web site (at www.ucop.edu/doorways/guide) to download, print, complete and fax the "New School Survey." Once this survey is received by UCOP staff and the school has become WASC-accredited (or a candidate), UCOP will assign a User ID and Password for the a-g Online Update web site so that school personnel can submit courses for approval.

In December 2002, the Board of Admissions and Relations with Schools (BOARS) approved a policy requiring all public and private high schools to be accredited (or at least affiliated, i.e., candidacy status) by the Western Association of Schools and Colleges (WASC) in order to establish an a-g course list. Schools that are not WASC-accredited, but had established a-g course lists prior to the passage of this policy, will be able to maintain their current course lists through June 2006, or until they become WASC-accredited or a candidate. New schools must become WASC-accredited or a candidate before establishing an "a-g" course list. All materials must be submitted to UC by September 1 to allow sufficient time for the articulation process to occur for the current school year.

Online update process

1. **Review materials.** Before you revise your course list, be sure to review all materials in this packet.
2. **Coordinate with school and district personnel.** UC knows that in some public school districts a district administrator coordinates the update of course lists for all high schools in the district, while in other districts, schools take on this responsibility themselves. This packet of information has been sent to all schools and all districts. Please coordinate with your counterparts at the school or district level so that everyone is familiar with the material in this guide and so that efforts are not duplicated. For public school districts, UC has assigned a User ID and Password for both school and district personnel so that both can access the a-g Online web site and work together on updating the course list, if desired.
3. **Log onto www.ucop.edu/doorways/update.** To get into the online system, you will need a User ID and Password. If you did not receive this information, you can contact the help line at hsupdate@ucop.edu or (510) 987-9570.
4. **Follow prompts.** As you move through the web site, it is best to do so sequentially the first time, using the "next" button at the bottom or top of each page. Once familiar with the site, you can use the navigation bar on the left to move around.

5. **Complete all information.** There are several required fields marked with a red asterisk (*). Please be sure to include all required information. To help your students, UC is interested in storing more information about your school and courses. To the degree possible, please complete all fields accurately.
6. **Take your time.** This online system allows you to come back to the update process over a period of weeks or months, as you choose. All information entered is saved as you move from one screen to the next.
7. **Submit to UC.** Once you have moved through each section of the site, advance to the "submit" page to electronically send your submission to UC. Before doing so, be sure your submission is complete. The site will only permit you to submit if you have logged onto the site using the submission User ID and Password. You will not be allowed to submit again until the previous submission has been reviewed by UC staff. The preferred deadline is March 16, 2007.

Notification. Once your submission is reviewed by UC, you will receive an e-mail that links to a cover letter and checklists for all courses that were not approved. You should print these documents for your records. You can view your school's updated course list at www.ucop.edu/doorways/list .

Technical Support. Should you need assistance navigating through the a-g online update web site, contact hsupdate@ucop.edu or (510) 987-9570.

New course certification

New developments and directions in high school curricula have generated considerable interest in the process of course approval. To foster and facilitate our cooperation in these matters, UC offers the following recommendations:

- Make this material regarding the "a-g" requirements widely known to your staff. Feel free to photocopy this material and refer staff to the a-g Guide web site at www.ucop.edu/doorways/guide . In addition to the information in this packet, the "a-g Guide" includes dozens of standard, honors, and innovative course descriptions, as well as tools and resources designed to assist schools in the course design and submission process. These course descriptions should be used only as guides, i.e., "FOR REFERENCE ONLY." New course descriptions should be original, created to reflect accurately the curriculum that will actually be taught at each individual school.
- Consult with trained UC and high school colleagues early on as you plan new courses and new ways to restructure your curriculum and patterns of course offerings. The process of early consultation has worked very well in the past. In the last year, we have trained 10 regional Cadre of Expert teams specifically to assist with this function. You can find your local "experts" on the a-g Guide web site at www.ucop.edu/doorways/guide , under the "Cadre of Experts" tab.
- Consult nearby UC faculty for assistance in developing new curriculum. They may be willing to work with you to ensure that a course is appropriately rigorous (in content and level) before submitting it for approval.
- Ensure that new courses are intellectually challenging, include substantial reading and writing, require critical thinking and problem solving (as appropriate), and show attention to patterns of critical thinking.
- Use the "Course Description Template" (and accompanying instructions) to ensure that all necessary information is included. The template can be downloaded from www.ucop.edu/doorways/guide .

Contacting UC

For questions relating to the certification process, deadlines, or the status of your submission, contact

High School Articulation Help Line
hsupdate@ucop.edu
(510) 987-9570
(510) 987-9522 Fax

ATTACHMENT 7

Attachment 7:

Table I. University of California Graduation Rates by Campus, 1998 Entering Cohort; Education Trust Data[1]

Campus	4 year	5 year	6 year
University Of California-Berkeley	59%	84%	87%
University Of California-Davis	50%	78%	82%
University Of California-Irvine	44%	75%	80%
University Of California-Los Angeles	67%	85%	87%
University Of California-Riverside	37%	59%	64%
University Of California-San Diego	53%	78%	83%
University Of California-Santa Barbara	41%	69%	75%
University Of California-Santa Cruz	41%	65%	69%
SUNY College At Buffalo	10%	31%	40%
University Of Illinois At Urbana-Champaign	45%	77%	80%
University Of Michigan-Ann Arbor	57%	83%	87%
University Of Virginia-Main Campus	79%	90%	92%
Massachusetts Institute Of Technology	81%	92%	92%
Stanford University	83%	93%	95%
Yale University	86%	95%	96%
Harvard University	89%	96%	98%

Notes

1. Education Trust derives its graduation rates from the IPEDS Graduation Rate Survey, which includes only first-time, full-time bachelor's or equivalent degree-seeking freshmen who earn that degree from the institution where they originally enrolled. Undergraduates who begin as part-time or non-bachelor's degree-seeking students, or who transfer in to the institution from elsewhere in higher education, are not included in these data. Additionally, students who left school to serve in the armed forces, to serve with a foreign aid service of the federal government, to serve on an official church mission, or who died or became permanently disabled are excluded from these data. IPEDS defines the academic year as fall to summer, so summer graduates are counted in the previous academic year. For example, a student graduating in the summer of 2002 is included in the 2001-2002, or four year, graduation rate. Students are the enrolling class of 1998-1999 and are identified by the Education Trust as the 2004 cohort since their sixth year is 2003-2004. These data are provided by each UC campus. *Data Source: Education Trust College Results Online, http://www.collegeresults.org/. Date: 2/8/2007.*

Table II. University of California Graduation Rates by Campus, Education Trust Data versus UCOP Longitudinal Data, Entering Class of 1998

Campus	Source	4 year	5 year	6 year
Berkeley	EdTrust	59%	84%	87%
	UCOP	48%	81%	87%
Davis	EdTrust	50%	78%	82%
	UCOP	34%	69%	78%
Irvine	EdTrust	44%	75%	80%
	UCOP	34%	69%	78%
Los Angeles	EdTrust	67%	85%	87%
	UCOP	47%	80%	87%
Riverside	EdTrust	37%	59%	64%
	UCOP	32%	58%	66%
San Diego	EdTrust	53%	78%	83%
	UCOP	44%	76%	83%
Santa Barbara	EdTrust	41%	69%	75%
	UCOP	43%	71%	77%
Santa Cruz	EdTrust	41%	65%	69%
	UCOP	42%	66%	72%

Notes

1. Education Trust derives its graduation rates from the IPEDS Graduation Rate Survey, which includes only first-time, full-time bachelor's or equivalent degree-seeking freshmen who earn that degree from the institution where they originally enrolled. Undergraduates who begin as part-time or non-bachelor's degree-seeking students, or who transfer in to the institution from elsewhere in higher education, are not included in these data. Additionally, students who left school to serve in the armed forces, to serve with a foreign aid service of the federal government, to serve on an official church mission, or who died or became permanently disabled are excluded from these data. IPEDS defines the academic year as fall to summer, so summer graduates are counted in the previous academic year. For example, a student graduating in the summer of 2002 is included in the 2001-2002, or four year, graduation rate. Students are the enrolling class of 1998-1999 and are identified by the Education Trust as the 2004 cohort since their sixth year is 2003-2004. These data are provided by each UC campus.
Data Source: Education Trust College Results Online, http://www.collegeresults.org/. Date: 2/8/2007.
2. UCOP uses the Undergraduate Admissions System database (UAD) and Undergraduate Longitudinal processing database (ULONG) to calculate graduation rates. UAD and ULONG include part-time students. Unlike IPEDS, UCOP Longitudinal Data defines the academic year as summer to spring, so summer graduates are counted in the next academic year. Thus, a student graduating in the summer of 2002 is included in the 2002-2003, or five year, graduation rate. UCOP graduation rates are based on the entering class of 1998-1999.
Data Sources: Table A810a, First-Time UC Freshman Application Flow and Student Progress By Campus and Year, All Students, 1996-2004, Corporate Student System (UAD-R and ULONG-R), Date: 12/6/2006.
3. Both Education Trust and UCOP datasets are for the entering class of 1998-1999; while six year graduation rates are comparable, four year rates differ due to different reporting methodologies between the IPEDS Graduation Rate Survey, which is done at the campus level, and UCOP. Because IPEDS defines the academic year as fall to summer, summer graduates are counted in the previous academic year, while UCOP defines the academic year as summer to spring, counting summer graduates in the next academic year. In addition, IPEDS Graduation Rate Surveys include only full-time, degree-seeking students. ULONG includes all enrolled students, both full-time and part-time. This difference in reporting leads to considerable variance in four-year graduation rates.

UCOP Academic Planning and Budget Elisabeth Willoughby, 2/12/2007

UNIVERSITY OF CALIFORNIA

PERSISTENCE & GRADUATION RATES, AVERAGE TIME TO DEGREE FOR INFO DIGEST

REPORT DATE: 04/10/07

ALL DOMESTIC FIRST-TIME FRESHMEN - SYSTEM-WIDE

YEAR	Number	1-year Pers Rate	2-year Pers Rate	4-year Grad Rate	5-year Grad Rate	6-year Grad Rate	Avg Yrs To Deg	Avg Qtrs To Deg
1994	21,731	90.7%	81.9%	34.7%	67.0%	75.2%	4.2	13.1
1995	22,463	90.8%	82.0%	35.8%	67.8%	76.1%	4.2	13.0
1996	23,471	91.6%	83.5%	38.9%	69.7%	77.9%	4.2	12.9
1997	24,264	92.0%	84.0%	39.8%	71.1%	78.9%	4.2	12.9
1998	25,637	92.2%	83.8%	40.8%	72.4%	79.7%	4.1	12.8
1999	26,835	92.2%	84.3%	43.2%	74.0%	80.7%	4.1	12.7
2000	27,896	92.4%	84.5%	43.5%	73.8%	80.4%		
2001	29,782	92.4%	83.9%	45.6%	74.7%			
2002	30,764	91.9%	84.1%	47.2%				
2003	31,133	92.0%	84.1%					
2004	28,986	92.4%	84.5%					
2005	30,879	92.1%						

Source: DWH ULONG

Note: Excludes Foreign Students

ATTACHMENT 8

Attachment 8:

Curriculum Vitae for Michael W. Kirst

August 2006

MICHAEL W. KIRST

Emeritus Professor of Education
(and Business Administration)
Affiliated Faculty, Political Science

BORN: 1939

EDUCATION: A.B. Dartmouth College, 1961, Economics (highest honors); Alfred P. Sloan Fellow; Phi Beta Kappa; Summa Cum Laude.

M.P.A. Harvard University, 1963, Government and Economics; Dartmouth General Fellow; Harvard Administration Fellow; Chairman, Class Committee.

Ph.D. Harvard University, 1964, Political Economy and Government.

EXPERIENCE:

Professor of Education; courtesy appointment, Business Administration; affiliated faculty, Political Science and Public Policy, Stanford University, 1969 to present.

President, California State Board of Education, 1977-1981; Member, 1975-1977.

Staff Director, U.S. Senate Subcommittee on Manpower, Employment and Poverty, Washington, D.C. (editor and author of numerous committee background readings and working papers), 1968-1969.

Director, Program Planning and Evaluation, Bureau of Elementary and Secondary Education, U.S. Office of Education, Washington, D.C., 1967.

Associate Director, President's Commission on White House Fellows; National Advisory Council on Education of Disadvantaged Children, Washington, D.C., 1966.

Budget Examiner, U.S. Bureau of the Budget (Office of Education), 1964-1965.

UNIVERSITY POSITIONS:

Chair, Administration and Policy Analysis, 1984-1992

Coordinator, Joint Degrees with Graduate School of Business and School of Education, 1969-2002.

University Fellow, 1986-1988

Chair, Public Service Center Faculty Board, 1989-1991

Academic Senate, 1995-1998; 2004-2006

PROFESSIONAL POSITIONS:

Management Board, Consortium for Policy Research in Education (CPRE) (1992-present).

Co-Director, Policy Analysis for California Education (PACE) (1983-2005).

Member, Learning Committee, California State Master Plan for Education 2000-2002.

Co-Chair, Technical Advisory Committee, California High School Exit Exam, 2000-2001.

Chairman, Board of International Comparative Studies in Education, National Academy of Sciences, 1993-1998.

Member, Board on Testing and Assessment, National Academy of Sciences, 1993-1998.

Member, Federal Advisory Commission on Education Statistics, 1994-1997, U.S. Department of Education.

Co-Editor, Educational Researcher, published by AERA, 1988-1992.

Fellow, Center for Advanced Study in the Behavioral Sciences, 1980-81.

Member, National Academy of Education, 1979-

Member, International Academy of Education, 1997 to present

Vice President, American Educational Research Association (AERA); President, Division G AERA-Social Context of Education, 1977-79; Chairman, AERA Special Interest Group in Politics of Education, 1972-74 and 1986-88.

Commissioner, Education Commission of the States, 1977-81. Elected member of Steering Committee, 1978.

Associate Editor, Journal of Educational Evaluation and Policy, published by AERA, 1978-82. Responsible for manuscript review and interview section.

White House Fellows Association.

Research travel grants, German Academic Exchange Service, U.S.-Japan Foundation, and U.S. State Department (Italy, Spain, France, Hungary).

Visiting Professor, Stanford at Oxford, Winter, 1999.

Visiting Professor, Central European University, Summer 1999, Budapest, Hungary.

Member, National Research Council, Steering Committee for the Workshop on Higher Education Admissions, 1998-99.

Member, Oakland Mayor's Commission on Education, 1999.

HONORS:

Roald E. Campbell Award for Career that Bridges the Gap Between Research and Politics, AERA, 1994.

California County Superintendents Professional Publication Award, 1999.

CURRENT
RESEARCH:

Principal Investigator, Consortium for Policy Research in Education (federally funded national policy center).

Principal Investigator, Irvine Foundation Grant concerning preparation and success for California community college students.

PUBLICATIONS:

Books

The Political Dynamics of American Education (Berkeley:McCutchan, 2005) with Fred Wirt.

From High School to College: Improving Opportunities for Success in Postsecondary Education (Jossey Bass/Wiley, 2004) with Andrea Venezia.

Schools in Conflict: Political Turbulence in American Education (Berkeley: McCutchan, 1992, 3rd edition), with Frederick Wirt. First edition published in 1982.

Who Controls Our Schools: American Values in Conflict (New York: W.H. Freeman, 1984).

Contemporary Issues in Education: Perspectives from Australia and U.S.A. (Berkeley: McCutchan, 1983), with Greg Hancock and David Grossman.

State School Finance Alternatives (Eugene, Oregon: University of Oregon, 1975), with L. Pierce, W. Garms, and J. Guthrie.

Revising School Finance in Florida (Tallahassee: Florida Governor's Office, 1973), with W. Garms.

Federal Aid to Education: Who Governs, Who Benefits (Lexington, Ma.: D.C. Heath, 1972), with Joel Berke.

State, School and Politics, Editor (Lexington, MA: D.C. Heath, 1972).

The Political Web of American Schools (Boston: Little, Brown, 1972), with Frederick Wirt. Revised in 1975 and republished as Political and Social Foundations of Education (Berkeley: McCutchan).

The Politics of Education at the Local, State, and Federal Levels, Editor (Berkeley: McCutchan, 1970).

Government Without Passing Laws (University of North Carolina Press, 1969).

Monographs

Claiming Common Ground: State Policymaking for Improving College Readiness and Success (San Jose, CA: National Center for Public Policy and Higher Education, 2006), with Andrea Venezia et al.

The Governance Divide: Improving College Readiness (San Jose, CA: National Center for Public Policy and Higher Education, 2006), with Andrea Venezia et al.

Similar Students: Different Results (Palo Alto, CA: EdSource, 2006, with Trish Williams et al.

Betraying the College Dream: How Disconnected K-12 and Postsecondary Education Systems Undermine Student Aspirations (with A. Venezia and A. Antonio) (Stanford, CA: Stanford Institute for Higher Education Research, 2003).

Mayoral Influence, New Regimes, and Public School Governance (Philadelphia, PA: Corsortium for Policy Research in Education, University of Pennsylvania, 2002.

Overcoming the Senior Slump (Washington, D.C.: Institute for Education Leadership, 2001).

Co-Editor, Crucial Issues in California State Education Policy 2000 (Berkeley, CA: Policy Analysis for California Education (PACE), 2000).

California Curriculum Policy in the 1990s: We Don't Have To Be In Front To Lead," with Lisa Carlos (Berkeley: Policy Analysis for California Education, 1997).

Conditions of Education in California 1994-95, with Julia Koppich et al. (Berkeley: Policy Analysis for California Education, 1995), prior editions published annually since 1984.

Co-Editor, Setting National Content Standards, issue of Education and Urban Society, Vol. 26, No. 2, February 1994.

Co-Editor, Integrating Services for Children: Prospects, Issues and Pitfalls, Education and Urban Society, special journal, Vol. 25, No. 2, February 1993.

Governing Public Schools: Changing Times and Changing Requirements (Washington, D.C.: Institute for Educational Leadership, 1992) with J. Danzberger and M. Usdan.

Research and Renewal of Education (Stanford, Ca.: National Academy of Education, 1991), with Thomas James and Diane Ravitch.

Improving Policies for Children (Albany, N.Y.: Rockefeller Institute of Government, 1990), with Milbrey McLaughlin.

The Progress of Reform: An Appraisal of State Education Initiatives (New Brunswick, N.J.: Rutgers University, Center for Policy Research in Education, 1989), with Susan Fuhrman and William Firestone.

Conditions of Children in California, Author and Editor (Berkeley: Policy Analysis for California Education), published 1989.

School Boards: Strengthening Grass Roots Leadership (Washington, D.C.: Institute for Educational Leadership, 1986), with Michael Usdan and others.

Handbook for Evaluation of State Education Reform, published by the National Conference of State Legislators, Denver, Co., 1986.

Future Research Directions in Education Finance, Governance and Organization, Editor (Washington, D.C.: Government Printing Office, National Institute of Education, 1980), with Charles Benson.

Special Issue, Education and Urban Society, Evaluating State Education Reforms, Vol. 18, No. 3 (May 1986), with James Guthrie (Co-editors).

A Perspective on Education in Hong Kong (Government of Hong Kong, 1983, with John Llewellyn, et al.).

Governance of Elementary and Secondary Education (University Press of America, 1976).

Financing Educational Services for the Handicapped (Washington, D.C.: Council for Exceptional Children, 1976), with Charles Bernstein, et al.

Articles:

"Overcoming Educational Inequality: Improving Secondary Education Linkage with Broad Access Postsecondary Education," in Stacy Diekert-Conlin and Ross Rubenstein (eds.), Ecomonic Inequality and Higher Education (New York City: Russell Sage Foundation, 2007).

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Educational Researcher, News and Comment editor, 1989-1992

Founding Association Editor, Education Evaluation and Policy Analysis, 1979-1984.

ATTACHMENT 9

Attachment 9

FORMULATING CURRICULUM DOCUMENTS: TOOLS FOR CURRICULAR IMPROVEMENT

1. **What are the reasons for developing curriculum documents?**
   a. They are useful tools to help the school identify the strengths and weaknesses in the curricular program.
   b. They provide guidelines for new teachers to assist them in following the curriculum designed by and for the school.
   c. They provide a framework for all teachers to ensure continuity within and among grade levels.

2. **Who should develop curriculum documents?**
   a. Curriculum documents could be designed by one or two people who may be responsible to provide leadership, but are not familiar with what is really being taught, thereby presenting an inaccurate picture.
   b. Curriculum documents should be written by the teachers at each grade level to reflect what is truly being taught based upon their experience in the classroom.

3. **What information should be included in the curriculum documents?**
   a. ***Introductory information*** for each course:
      1) **Philosophy statement** for each subject area
      2) **Instructional goal** for each course

   b. ***Scope and Sequences*** need to be developed for each subject area that reflect the overall framework of the instructional program including:
      1) **Specific skills** and/or content areas to be taught
      2) The grade level or individual course at which the skill/content is **introduced**
      3) The grade level or individual course at which the skill/content is expected to be **mastered**
      4) The **continued teaching** expectations for the grade levels or courses between introductory and mastery levels

   c. ***Course Outlines*** need to be written for every subject (elementary) or course (secondary) taught at each grade level to provide clear direction about the following information:
      1) **Instructional objectives**, written as student behaviors, identified for each unit of study
      2) **Bible truths** to be integrated into each unit
      3) **Time frame** for teaching each unit
      4) **Instructional methods/activities** used to achieve the objectives
      5) **Materials and resources** used in the presentation of each unit
      6) **Evaluation/assessment techniques** utilized to assess achievement of the objectives

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ATTACHMENT 10

Attachment 10:

Michael W. Kirst, Ph.D.

Data and Information Considered As Basis and Reasons for Opinions

Publications referred to in the report

His years of research and teaching

The Complaint in this case and the parties' briefs on the Motion to Dismiss

UC A-G Guide (http://www.ucop.edu/a-gGuide/ag/content/Guidetoa-gReqs_2007.pdf)

Reports of Drs. Erickson and Keenan, produced by Plaintiffs in this case

Compensation

The compensation to be paid for work on this report, deposition testimony, and trial testimony is $150 per hour.

Testimony in Other Cases

None in the preceding four years, at trial or by deposition.

Signature

Michael W. Kirst, Ph.D.

Professor of Education and Business Administration

Stanford University

May 7, 2007