

Why Scholars?

Scholars Advantage

Because a majority of jobs now require some type of education after high school, all students need to complete a sequence of rigorous academic courses in math, lab sciences, English, social studies, and languages other than English to be competitive in the workplace. Students who complete coursework at or above the [Scholars Course of Study](#) have more - and better - options after high school graduation. They are better equipped to advance to higher education, succeed in workplace and military training programs, and/or resume their education in preparation for a career change at a later date.

Research shows that there is a strong link between [courses](#) completed in high school and [postsecondary achievement](#).

Research also shows that a solid high school education can increase wages both for students who enroll in and complete postsecondary education and for students who enter the workforce directly from high school.

A solid academic foundation in high school benefits every student, regardless of [ethnicity and socioeconomic status](#) (SES). However, students from families with lower SES tend to derive a greater relative benefit from a rigorous course of study.

Postsecondary Achievement

The U.S. Department of Education has conducted three long-term studies that track students from the sophomore year of high school through age 30. The research shows that there is a strong link between the courses completed in high school and postsecondary degree completion. Students who took Algebra 2, for example, earned a bachelor's degree 39.5 percent of the time, while students who stopped at geometry earned a bachelor's degree only 23.1 percent of the time. (Adelman, chapter 1, table 6) The rigor of academic courses completed has proved to be a better predictor of success in postsecondary education than a student's GPA or class rank.

Adelman, Clifford, Answers in the Tool Box: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment (Washington, DC: U.S. Department of Education, 1999).
<http://www.ed.gov/pubs/Toolbox/>

Wages

Research conducted by the U.S. Department of Education found that students who complete rigorous academic courses like the Scholars Course of Study enjoy on average a 13.1 percent wage advantage nine years after graduation, an effect that occurred regardless of whether the student attended college or not. (Zucker and Dawson, NCES 2001-168, table 21)

Zucker, Brian and Dawson, Royal, Credits and Attainment: Returns to Postsecondary Education Ten Years after High School (NCES 2001-168), Table 21.

Scholars Course of Study

The recommended Scholars Course of Study includes:

- Three years of **math**: algebras 1 and 2, and geometry;
- Three years of **science**: biology, chemistry, and physics;
- Four years of **English**;
- Three and a half years of social studies, including economics; and
- Two years of a **language** other than English.

Math and Degree Completion

The strongest predictor of a student's ability to earn a degree is the level of mathematics completed. Completing Algebra 2 triples a student's likelihood of earning a college degree at a public four-year institution than if the student stopped at geometry. (Perna and Titus) Students who complete advanced math are 12.6 times more likely to earn a four-year degree at an in-state public institution than peers who stop at geometry. (Perna and Titus) Based on similar evidence, the College Board decided that beginning in 2005 the SAT will cover skills acquired in the second year of algebra.

Math and Wages

According to at least one study, each math class completed beyond Algebra 1 results in a five percent increase in wages, regardless of degree completion, and this advantage increases as the individual ages. (Ackerman, 2001)

Science

As a result of advances made in the 20th century, scientists began to understand the interplay between biology, chemistry, and physics. Today, the three fields are more interrelated than ever: biology is best understood through knowledge of organic chemistry, and chemistry is based on physics. Students who do not complete all three courses may not acquire the fundamental knowledge required in many of the most lucrative careers.

Students' knowledge of other natural sciences is based on our knowledge of the three core sciences. Furthermore, of students who complete physics, 70 percent increase in science proficiency while in high school compared to 54 percent who take chemistry but not physics, and 42 percent who take neither chemistry nor physics. (Madigan)

English

According to a survey of businesses conducted by the National Association of Manufacturers, "Skills Gap 2001," 32 percent of the hourly workforce possesses poor reading and writing skills. Similarly, a 1999 American Management Association Survey reported that one-third of employees tested for literacy did not pass. (2001 AMA Survey: Basic Skills, Job Skills, and Psychological Measurement <http://www.amanet.org/press/amanews/bjp2001.htm>) Because strong reading and writing skills are vital to critical thinking and decision making, the Center for State Scholars recommends four years of grammar and English-language literature, undiluted by derivative courses such as Applied Technical Writing. Literacy has a direct impact on an individual's ability to qualify for a job that pays enough to support a family. (Sum, NCES, 1999) A high level of literacy reduces inequities between demographic and socioeconomic groups.

To read more about the effects of literacy on earnings, see Literacy in the Labor Force, National Center for Education Statistics, September 1999, <http://nces.ed.gov/pubs99/1999470.pdf>.

Foreign Languages

The Scholars Course of Study includes two years study of a language other than English.

Foreign Languages and Higher SAT Scores

Students who study two years of a language other than English score an average of 60 points higher on the SAT I verbal test and 48 points higher on the math than students who do not complete two years of a language. (College Board, 2002, Table 3-3) For students who go on to study four years of a language in high school, the average gains are 149 and 150 points on the verbal and math tests, respectively.

Foreign Languages and Wage Increase

Foreign language completion in high school also is linked to higher wages in the workplace. Studying a language other than English for two years raises a student's wages by an average of four percent. (Altonji, 1995, p. 424) This wage advantage accrues even to those students who do not go on to postsecondary education. The U.S. Army pays a premium to enlisted soldiers who can speak common languages, and higher premiums to those who speak less common languages such as Arabic.

Foreign Languages and New Perspective on English

A survey of 400 faculty and staff members from 20 research universities concluded that learning a language other than English improves performance in English as well, because it introduces students to a theoretical view of language that aids the study of English. Studying a second language also gives students an opportunity to learn about and interact with other cultures. (Standards for Success, 2003, p. 67)

Social Sciences

Americans between 15 and 26 years of age born after 1976 are two to three times more likely to say that they are engaged in political activities if they have taken a civics or American government class than those who have not. (Kurtz et al)

Civic Education Means More People Involved (Ages 15-26 born after 1976)

	Took Civics (%)	Did Not Take Civics (%)
Registered to vote	72	43
Voted in all or most elections	59	28
Follow what's happening in government	63	30
Participated in volunteer activity	64	40
Contacted public official	21	11
Worked on a campaign	14	3
Have friends that are interested in government	38	17

Source: National Conference of State Legislatures, September 2003

Final Note

In a May 2003 report, the Education Trust recommends that all students complete a sequence of rigorous academic high school courses equivalent to the Scholars Course of Study. Download a copy of A New Core Curriculum for All (Adobe Acrobat 4.0 format) or go to <http://www.edtrust.org/main/main/reports.asp>.

- Ackerman, Deena, Do the Math: High School Mathematics Courses and the Earnings of High School Graduates, unpublished dissertation, University of Wisconsin, Madison, 2001.
- Adelman, Clifford, Answers in the Tool Box: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment, U.S. Department of Education, Washington, DC, 1999. <http://www.ed.gov/pubs/Toolbox/>
- Altonji, Joseph, "The Effects of High School Curriculum on Education and Labor Market Outcomes," Journal of Human Resources, summer 1995, p. 424.
- American Management Association, 2001 AMA Survey: Basic Skills, Job Skills, and Psychological Measurement, <http://www.amanet.org/press/amanews/bjp2001.htm>
- Bahrack, Harry, "Fifty Years of Second Language Attrition: Implications for Programmatic Research," Modern Language Journal (68), pp. 105-118.
- College Board, 2002 College Bound Seniors, Table 3-3.
- Kurtz, Karl T., Rosenthal, Alan, and Zukin, Cliff, "Citizenship: A Challenge for All Generations. National Conferenc of State Legislatures, September 2003.
- Madigan, Timothy, "Science Proficiency and Course Taking in High School," NCES 97-838, March 1997.
- Perna, Laura and Titus, Mavin, "Understanding Difference in the Choice of College Attended," April 2003.
- Standards for Success, a project of the Association of American Universities and The Pew Charitable Trusts, Understanding University Success, University of Oregon, Center for Educational Policy Research, Eugene, Oregon, 2003.
- Sum, Andrew, Literacy in the Labor Force: Results from the National Adult Literacy Survey, National Center for Education Statistics, U.S. Department of Education, Washington, DC, September 1999. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=1999470>

Equity and SES

Students from families with low socioeconomic status (SES) who complete the [Scholars Course of Study](#) are more likely to pursue postsecondary education and to persist to graduation at similar rates as students who come from a high SES background, based on the following research.

- 85.1 percent of Pell Grant recipients who completed a rigorous high school course of study remained in higher education through the third year, compared to 83 percent of their non-Pell peers. (Wei and Horn, NCES 2002-169, p. 33)
- First-generation college-going students who completed a rigorous high school course of study had a comparable GPA at the conclusion of the third year of higher education to students whose parents had attended college. (Warburton et al, NCES 2001-153, p. 32)
- 86.3 percent of first-generation college-going students who completed a high school course of study similar to the Scholars' remained in higher education at the same institution through the third year, compared to 85.8 percent of students whose parents had college degrees. (Warburton et al, p. 37)

Ethnicity and Socioeconomic Status

The return on rigorous academic coursework is greatest for students who are members of ethnic minority groups. While whites show increased graduation rates of 10.4 percent if they complete a set of rigorous courses, Latinos have an increased college rate of 18.5 percent and African Americans an increased rate of 27.5 percent. (Adelman, 1999)

Adelman, Clifford, Answers in the Tool Box: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment, U.S. Department of Education, Washington, DC, 1999.
<http://www.ed.gov/pubs/Toolbox/>

Warburton, Edward C., Bugarin, Rosio, and Nuñez, Anne-Marie, "Bridging the Gap: Academic Preparation and Postsecondary Success of First-Generation Students," NCES 2001-153, U.S. Department of Education, Washington, DC.
<http://nces.ed.gov/pubs2002/quarterly/fall/q4-2.asp>

Financial Incentives

Large-scale merit-based scholarship programs such as the TEXAS Grant and the Georgia HOPE Scholarship are designed to encourage and reward high school students for desirable behavior. There is evidence that offsetting the cost of higher education based on completion of a course of study (the TEXAS Grant model) has several benefits over the alternative strategy of rewarding grade point average (the Georgia HOPE model). Incentives that reward completion of a Scholars Course of Study rather than a grade point average (GPA) encourage more students to set academic "stretch" goals based on the theory that a C in a difficult course is worth more to a prospective employer or postsecondary educational institution than an A in an easy course.

Additionally, a comparison of TEXAS Grant and Georgia HOPE suggests that incentives tied to course completion increase the postsecondary participation rates of ethnic minorities more so than GPA-based incentives.

	TEXAS Grant 2002	GA HOPE Scholarship 2003
What it pays for	100% tuition and fees	100% tuition and fees
When it started	Fall 1999	Fall 1993
High school eligibility Requirements	Complete RHSP/DAP	3.0 GPA in college prep courses ¹
Requirement to retain in higher education	Cumulative 2.5 GPA and 75% completion rate of hours attempted per year	Cumulative 3.0 GPA measured each 30 credit hrs
# H.S. grads who met academic requirements	129,832 ⁱ	46,097 ²
# Grant recipients	46,843 ⁱⁱ	211,938 ³
% Non-whites of overall state population	47.5% ⁱⁱⁱ	34.93% ⁴
% Non-whites of overall undergraduate population	42% ^{iv}	22% ⁵
% Non-white recipients of Grant/Scholarship	66.1% ^v	19% ⁶
% Grant recipients needing college remedial coursework	19%	14.9% ⁷
% Retain after 1 st year	80.22% ^{vi}	57% ⁸
% Retain after 4 th year*	N/A	23% ⁹

* Not counting those already graduated

If the goal is to increase the number of academically prepared middle- to lower-middle-class students completing a college degree or certification, the course completion model is a more effective tool based on existing data.

¹ To reduce the number of HOPE Scholars in an attempt to avoid future funding shortages, the eligibility rules were tightened for students who graduated high school in 2000 to demand a "B" average in "core-curriculum" subjects. Interestingly, the predicted 35% drop in qualifiers did not materialize. The number of recipients declined only 4.3% from the previous year.

² Bill Flook, 11/24/03 Correspondence

³ Ibid.

⁴ Personal Communication with Bruce Zents of the State Data and Research Center, Georgia Institute of Technology, 10/29/02

⁵ An Evaluation of Georgia's HOPE Scholarship Program: Impact on College Attendance and Performance, Council for School Performance, June 24, 1998.

⁶ An Evaluation of Georgia's HOPE Scholarship Program: Impact on College Attendance and Performance, Council for School Performance, June 24, 1998.

⁷ Ibid

⁸ Bill Flook, 11/24/03 Correspondence.

¹⁰ Ibid

Worth Reading

A Shared Agenda: A Leadership Challenge to Improve College Access and Success

A February 2004 report from the Pathways to College Network cites six general principles to guide educators and other stakeholders in efforts to improve college access and success. The Texas Scholars Program is used as an example of Principle One: Expect that all underserved students are capable of being prepared to enroll and succeed in college. [Download](#) the report or go to http://www.pathwaystocollege.net/Pub/pub_products_findings.html to read more.

American Diploma Project Benchmark Report

The February 2004 release of “Ready or Not: Creating a High School Diploma that Counts” focuses attention on the gap between high school preparation and real-world expectations of postsecondary education and high-growth high-performance jobs.

Ready for Tomorrow: Helping All Students Achieve Secondary and Postsecondary Success

A report released in October 2003 by the National Governors Association and Jobs for the Future includes examples of elementary and secondary programs that improved postsecondary attainment. For the complete report, [click here](#).

Public High School Graduation and College Readiness Rates in the United States

In this September 2003 report released by the Manhattan Institute, Jay P. Greene and Greg Forster estimate the percentage of students in the public high school class of 2001 who actually possess the minimum qualifications for applying to four-year colleges. For the complete report, see [Public High School Graduation and College Readiness Rates in the United States](#).

American Diploma Project National New Economy Workplace Study

The ADP workplace study is an analysis of the relationship between education, employment and earnings data, and includes employers’ reflections on what they think critical employee competencies in English language arts and mathematics are for success in the high-performance workplace. For the complete report, see [The ADP Workplace Study](#).

High Standards for All?

David L. Angus and Jeffrey E. Mirel wrote in “High Standards for All? The Struggle for Equality in the American High School Curriculum, 1890-1990” (1994) that by setting low expectations and creating a differentiated curriculum for students of supposedly low ability, the United States drove down achievement of all students in the 20th century. In *The Failed Promise of the American High School 1890-1995* (1999) the authors recommended that the United States move steadily toward more rigorous and demanding high school graduation requirements as well as national content standards. For the complete article, [click here](#).

The Failed Promise of the American High School, 1890-1995

In the final chapter of their 1999 book, titled “Implications for Policy and Practice,” David L. Angus and Jeffrey E. Mirel shed light on some current issues of policy and practice in secondary education and offer proposals for reform of the nation’s high schools. For the complete chapter, [click here](#).

A New Core Curriculum for All

In a May 2003 report, the Education Trust recommends that all students complete a sequence of rigorous academic high school courses equivalent to the Scholars Course of Study. Download a copy of [A New Core Curriculum for All](#) (Adobe Acrobat 4.0 format) or go to <http://www.edtrust.org/main/main/reports.asp>.

ⁱ TEA, February 2003

ⁱⁱ Communication with Jane Caldwell, Director of Grants and Special Programs, Texas Higher Education Coordinating Board, 01/07/04.

ⁱⁱⁱ *2002 Report on TEXAS Grant*, David Gardner, Texas Higher Education Coordinating Board, Participation and Success Committee, 9/27/02

^{iv} Texas Higher Education Coordinating Board, Facts on Higher Education Report.

^v Communication with Jane Caldwell, Director of Grants and Special Programs, Texas Higher Education Coordinating Board, 01/07/04.

^{vi} Legislative Oversight Committee on the TEXAS and Teach

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