



Research Report No. 06-5

**Washington State Board for Community and
Technical Colleges**

ROLE OF PRE-COLLEGE (DEVELOPMENTAL AND REMEDIAL) EDUCATION FOR RECENT HIGH SCHOOL GRADUATES ATTENDING WASHINGTON COMMUNITY AND TECHNICAL COLLEGES

SYSTEM SUMMARY FOR STUDENTS ENROLLED IN 2005-06

December 2006

Key Findings

- Fifty-two (52) percent of community and technical college students who graduated from high school in 2005 took pre-college (also known as remedial) classes in 2005-06. These students – totaling 12,328 – enrolled in pre-college math, English or reading.
- Forty-six (46) percent of community and technical college students who graduated from high school in 2005 took pre-college math courses. This represents a drop from 2002-03 when fifty (50) percent of high school graduates took pre-college math.
- Within three years of high school graduation, about half (47 percent) of all high school graduates have enrolled at a community or technical college in Washington. Each year about 37 percent of high school graduates enroll immediately in community and technical colleges, and an additional 10 percent enroll within one or two years after high school graduation.

This report provides information on these enrollment trends as required by RCW 28B.10.685. This system summary highlights the high school graduates who attended a community or technical college in the year following graduation (Part A and B). Part C provides information on the students who delayed enrollment at the college for one or two years after high school graduation. Part D describes the expenditures for pre-college courses.



For Information Contact:
Loretta Seppanen, Assistant Director, Education Services
Phone: 360-704-4348, email: lseppanen@sbctc.ctc.edu
Washington State Board for Community and Technical Colleges
TDD 800-833-6388

Part A
College Going Pattern of High School Graduates

Each year about 37 percent of Washington’s new high school graduates enroll at community or technical colleges in the year following high school. Another 29 percent of graduates go directly to baccalaureate institutions in Washington (21 percent) or enroll out of state in two-year or baccalaureate institutions (8 percent). About 5 percent enter a community or technical college after waiting a year or two and another 5 percent reverse the transfer pattern by first attending a four-year or out-of-state college and then transfer to a community or technical college within a year or two of high school graduation.

College-Going Pattern for High School Classes of 1998 to 2004

	2000	2001	2002	2003	2004	2005
Statewide Graduates						
Public & Private High Schools	59,400	60,700	61,942	64,097	64,857	64,000

Straight to Community and Technical Colleges After High School^{1*}

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
Enrolled (estimates 2001 to 2003)	22,800	24,300	23,580	24,679	24,131	23,724
% of Statewide Graduates	38%	40%	38%	39%	37%	37%

* Most enter in summer or fall after high school

Most high school graduates enroll in a two-year college to prepare to transfer to a university, though the number and percent enrolled with a transfer goal has declined slightly since 2003-04. The number and portion of high school graduates attending with the goal of completing applied associate degrees and certificates is increasing. Last year 39 percent of the new high school graduates coming straight to the colleges enrolled with a workforce education goal.

High School Graduates Straight to Community and Technical Colleges By Goal

	2000-01	2001-02	2002-03	2003-04 ²	2004-05	2005-06
Transfer goal*	13,727	14,830	14,223	17,863	17,302	16,694
% graduates enrolled	79%	80%	79%	72%	72%	70%
Workforce goal*	6,187	6,550	6,488	9,285	9,408	9,225
% graduates enrolled	35%	35%	36%	38%	39%	39%

* Graduates may be enrolled for both a workforce and a transfer goal in the same year.

¹ Starting in 2004-05 SBCTC improved its data system regarding identification of recent high school graduates. In prior years the reported graduates represented about 76 percent of the actual number of high school graduates entering directly to the community or technical colleges. The 2000 through 2003 estimates were based on the number of graduates identified by the SBCTC data system: 2000-01 17,441; 2001-02 18,587; 2002-03 18,022.

² In this and subsequent tables, the increase between 2002-03 and 2003-04 mostly reflects the improved data on enrolled high school graduates results for 2003-04 and 2004-05 years. There was about a 1 percent increase in actual high school graduates attending between the two years.

Part B
Statewide Trends in Pre-College
Course Taking at Community and Technical Colleges

Pre-College Course Enrollments by CTC Students Attending Immediately After High School

	2000-01	2001-02	2002-03	2003-04 ³	2004-05	2005-06
Pre-College Math	8,557	8,938	9,013	11,507	11,439	10,855
% Taking Pre-College Math	49%	48%	50%	47%	47%	46%
Pre-College Writing	3,608	3,715	3,639	4,676	4,471	4,083
% Taking Pre-College Writing	21%	20%	20%	19%	19%	17%
Pre-College Reading	1,779	1,832	1,781	2,579	2,561	2,254
% Taking Pre-College Reading	10%	10%	10%	10%	11%	10%
Any Pre-College Course	9,817	10,219	10,232	13,190	13,098	12,328
% Taking Any Pre-College	56%	55%	57%	53%	54%	52%

Pre-College Math: The number of recent high school students taking pre-college math is high – some 10,855 students in 2005-06. The joint efforts of K-16 leaders to align high school preparation in math with college-readiness standards may account for the recent small decline in the rate of pre-college math course.

The recently developed college-readiness standards for math at community and technical colleges and baccalaureate institutions are <http://www.transitionmathproject.org/standards.asp> . These standards specify math knowledge and skills to be gained through courses typically taken in the junior and senior years. These standards are above the math level currently required for high school graduation in Washington State. Math teachers in the K-12 system and faculty in higher education are currently working to translate these standards into seamless teaching strategies from high school to college.

Students entering college with skills below the college-readiness level must take pre-college math courses before starting on their required math sequence in college. These pre-college courses do not apply to the student’s degree credits and may extend the time needed to earn a college degree. College students have different college-level math sequences depending on their future major. The following are examples of these different choices:

College plans	Transfer to Business Major	Transfer to Elementary Education Major	Transfer to Engineering	Transfer to Nursing
1 st year math	Finite math, Calculus for Business, Statistics	2-3 course math series designed for educators	Pre-calculus or calculus	Statistics

³ See footnote 2.

While pre-college course taking extends the time and cost of college, most students who take pre-college math courses do achieve their academic goals. They successfully complete the pre-college courses and move on to complete their degrees or certificates. A study of recent baccalaureate graduates found that 48 percent of those who started at the community and technical colleges straight from high school had taken a pre-college course, most often math. Those students graduated at high rates in all major fields, and with senior-year GPAs comparable to students who did not take pre-college courses, and to students who started at the university (2.95 for younger CTC transfers with pre-college course, 3.03 for younger CTC transfers without pre-college courses, and 2.98 for direct-entry students).

High school graduates enrolled with a transfer goal were more likely than those enrolled for workforce purposes to take pre-college math. Not all workforce programs require college-level math. Two factors, however, have increased the math expectations for students with a workforce goal: 1) increasing math skill requirements in the professional and technical occupations for which the colleges provide training and 2) increasing number of students majoring in the middle and higher wage occupations that generally require higher level math than do workforce programs geared at occupations that typically offer lower wages.. High school graduates may not be aware of the need to meet college-readiness standards in preparation for most workforce programs.

High School Graduates By College Goal and Pre-College Math

	2000-01	2001-02	2002-03	2003-04 ⁴	2004-05	2005-06
Transfer goal*	13,727	14,830	14,223	17,863	17,302	16,694
Pre College Math	7,393	7,716	7,699	9,367	9,303	8,743
% Taking Pre-College Math	54%	52%	54%	52%	54%	52%
Workforce goal*	6,187	6,550	6,488	9,285	9,408	9,225
Pre College Math	2,766	2,953	3,054	4,260	4,289	4,130
% Taking Pre-College Math	45%	45%	47%	46%	46%	45%

Pre-College Writing and Reading: Statewide, 17 percent of recent high school graduates take pre-college writing at a community or technical college before taking college-level writing courses. Statewide, 10 percent of recent high school graduates take pre-college reading classes at a community or technical college. Teachers in K-12 and faculty at colleges and universities are in the process of finalizing college-readiness standards related to English writing and reading. The draft standards are available at: <http://www.learningconnections.org/elc/hecb.htm>

College-to-College Variation: Some 52 percent of 2005 high school graduates enrolled at the community and technical colleges took one or more pre-college courses in their first year of attendance. The rate of pre-college course taking at community colleges ranges from a low of 40 percent at Centralia College and Bellevue to 69 percent at Big Bend. Several technical colleges have a lower rate, reflecting the small percentage of high school graduates attending and the nature of the technical programs taken by those high school graduates.

⁴ See Footnote 2.

**Number of 2005 High School Graduates Attending College, Number & Percent
Enrolled in Pre-College Courses – 2005-06**

College	Public and Private High School Graduates Enrolled	Graduates in at Least 1 Pre-College Course	% in At Least 1 Pre- College Course
Bates	219	59	27%
Bellevue	2,145	864	40%
Bellingham	186	14	8%
Big Bend	333	229	69%
Cascadia	424	190	45%
Centralia	476	190	40%
Clark	1,512	876	58%
Clover Park	256	138	54%
Columbia Basin	999	563	56%
Edmonds	1,024	553	54%
Everett	1,088	626	58%
Grays Harbor	314	166	53%
Green River	1,353	726	54%
Highline	897	452	50%
Lake Washington	260	126	48%
Lower Columbia	436	225	52%
Olympic	1,025	566	55%
Peninsula	299	134	45%
Pierce / Fort Steilacoom	768	478	62%
Pierce / Puyallup	647	383	59%
Renton	214	8	4%
Seattle Central	642	326	51%
Seattle North	351	163	46%
Seattle South	429	184	43%
Seattle Voc Institute	121	51	42%
Shoreline	897	423	47%
Skagit Valley	715	445	62%
South Puget Sound	829	417	50%
Spokane	803	443	55%
Spokane Falls	1,401	750	54%
Tacoma	914	572	63%
Walla Walla	425	209	49%
Wenatchee Valley	535	314	59%
Whatcom	700	411	59%
Yakima Valley	809	454	56%
System Total*	23,724	12,328	52%

* Each student counted once even though may be enrolled at two or more colleges during the year.

Part C
**Statewide Trends in Students Who Delayed Entering College for
 One or Two Years After High School Enrollment in Pre-College Courses**

RCW 28B.10.685 requires the State Board to report on the course-taking pattern for high school graduates from the past three years. While many high school students attend community or technical colleges in the year immediately after high school, some who start at a university enter a community a year or two after high school (reverse transfer) and a smaller number of high school graduates wait one to two years to attend college. . Students who attend community and technical colleges with a delay of one or two years after high school graduation include:

- 22percent who had not attended college immediately after high school and now were enrolled to prepare for transfer. Half of that group (52 percent) took at least one pre-college course.
- 24 percent who had not attended college immediately after high school and enrolled in two-year colleges for short-term programs such as workforce certificates not requiring college-level skills in math. Most students in this group (65 percent) do not take pre-college courses.
- About half (54 percent) started at a Washington baccalaureate institution or out-of state college or university and transferred in with some credits already earned. These students may have already completed college-level math and English courses. Most students in this group (83 percent) do not take pre-college courses.

The high school graduates who take a year off from school before attending a community or technical colleges and who plan to transfer, enroll in pre-college course in a pattern that mirrors the students who come directly from high school (Part B.) The other delayed entry high school graduates are less likely to enroll in pre-college courses.

**Statewide Trend in Pre-College Course Taking for Students Who Delayed Enrollment at
 CTCs for 1 or 2 Years after High School⁵**

	2003-04	2004-05	2005-06
1 or 2 Years Later to CTC	6,939	5,965	6,234
% of Prior Year Graduates	28%	25%	26%
Took Pre-College Math	1,621	1,515	1,586
% Taking Pre-College Math	23%	25%	25%
Took Pre-College Writing	532	517	536
% Taking Pre-College Writing	8%	9%	9%
Took Pre-College Reading	325	320	283
% Taking Pre-College Reading	5%	5%	5%
Any Pre-College Course	1,861	1,766	1,832
% Taking Any Pre-College	27%	30%	29%

⁵ Due to limits in the SBCTC data system prior to 2003-04, the data on students who entered college after one or two years is shown here only for the three most recent years.

Part D Expenses for Pre-College Course Taking

Expenditures Related to Pre-College Course Taking: Most of students taking pre-college courses have been out of school for some years (77 percent). The 14,160 recent high school graduates taking pre-college courses as they started college in 2005-06 represent just 23 percent of the students taking pre-college courses. The recent high school graduates took a total of 3,119 FTE in pre-college course work (an average of 2 courses each over the academic year.) That FTE was 27 percent of the 11,748 FTE total in pre-college courses.

Students enrolled in pre-college courses pay the same tuition per course as paid for college-level courses. The college system in 2005 spent an estimated \$64.9 million on pre-college courses for all students – those directly from high school and the vast majority of older students in pre-college classes. The average expenditure per FTE in pre-college courses equaled \$5,525. These are tuition-paying students and these cost figures include both state general funds and operating fees (tuition). Thus the cost for providing pre-college course work to recent high school graduates (3,110 FTE) was \$17.2 million. The cost of providing pre-college course to all other adults (8,629) was \$47.7 million.

