

Report on Remedial Education in the UW System: Demographics, Remedial Completion, Retention, and Graduation October 2006

Introduction

The purpose of this report is to provide information on new freshmen, beginning in the fall of an academic year, who were identified as needing Math and/or English remediation in the UW System. This report contains four main sections and two appendices:

- Section I: Fifteen-Year Trends in Math and English Remediation
- Section II: Math and English Remedial Requirement by Selected Characteristics of New Freshmen
- Section III: First-to-Second-Year Retention by Math and English Remediation
- Section IV: Six-Year Graduation Rate by Math and English Remediation
- Appendix A: University of Wisconsin System Regent Policy Document: 88-16 Remedial Education Policy
- Appendix B: Math and English Remediation Required by Institution, Fall 2002-Fall 2004

This report examines Math and English remediation at the system level. Comparisons are made between students identified as needing remediation versus those students identified as not needing remediation.

Executive Summary

- ◆ The percentage of new freshmen requiring Math remediation has risen from 12.2 percent to 14.9 percent over the most recent three-year time period spanning fall 2002 to fall 2004. However, the fall 2004 percentage of new freshmen requiring Math remediation is below the fall 1990 level of 20.6 percent (the Board of Regents last modified the remedial education policy in fall 1990).
- ◆ The percentage of new freshmen requiring English remediation has remained stable over the same three-year time period (fall 2002-fall 2004), decreasing very slightly from 8.4 percent in fall 2002, to 8.1 percent in fall 2004. The fall 2004 percentage of new freshmen requiring English remediation is below the fall 1990 level of 10.2 percent.
- ◆ The first-to-second-year retention rate of students completing Math and/or English remediation in their first year is comparable to first-to-second-year retention rates of students who did not require remediation.
- ◆ Compared to Math remediation, students are more likely to complete English remediation in their first year.
- ◆ For students who require Math and/or English remediation, completing the requirement enhances a student's chances of obtaining a bachelor's degree within six years.

Section I: Fifteen-Year Trends in Math and English Remediation

Charts 1 and 2 provide data on the percent of students needing Math and English remediation, from fall 1990 to fall 2004. Appendix B contains institutional-level data, showing the number of students requiring Math and English remediation for the fall 2002 through fall 2004. Over the period since the last report, from fall 2002 to fall 2004, the percentage of new freshmen who were required to take Math remediation increased from 12.2 percent to 14.9 percent. During the same period of time, the percentage of new freshmen needing English remediation declined less than 1 percentage point, from 8.4 percent to 8.1 percent. These percentages are lower than the 20.6 percent of students required to take Math remediation and the 10.2 percent required to take English remediation in fall 1990, when the Board of Regents last modified the remedial education policy.

Chart 1
New Freshmen Needing Math Remediation

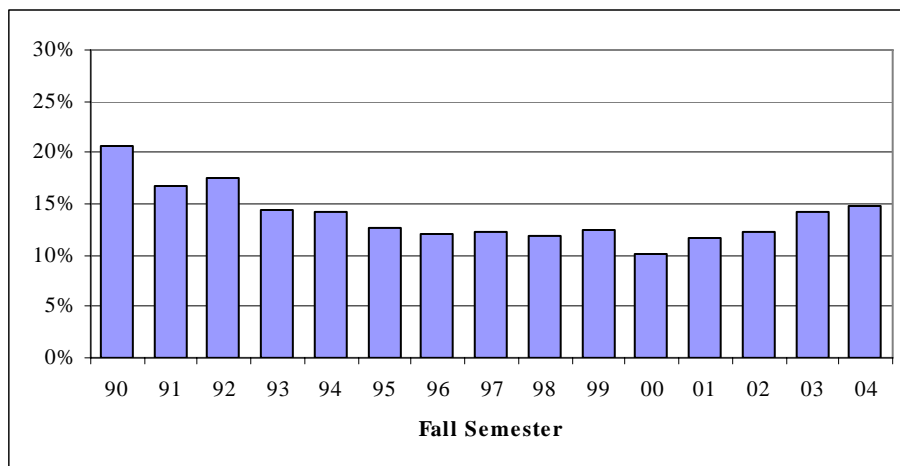
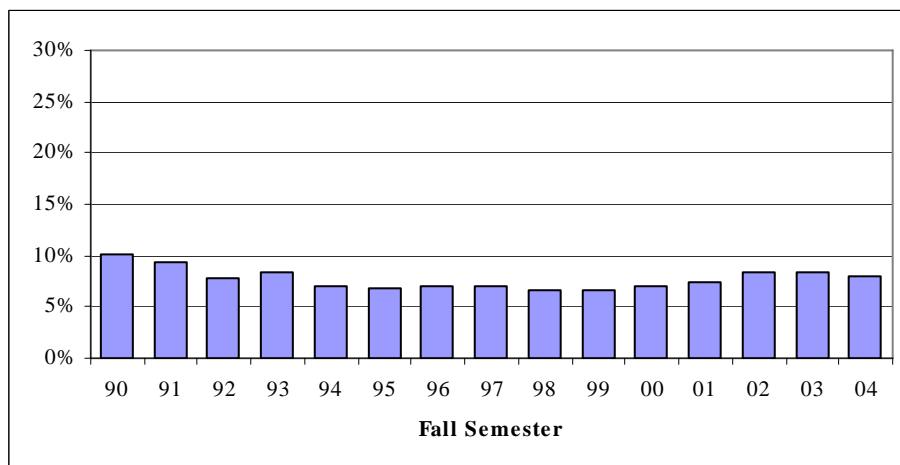


Chart 2
New Freshmen Needing English Remediation



Section II: Math and English Remedial Requirement by Selected Characteristics of New Freshmen

Tables 1 and 2 (see pages 4 and 5) show the numbers and percentages of all new freshmen who needed remediation in relation to demographic and academic variables. Table 1 provides the data regarding students who needed Math remediation and Table 2 provides the data regarding students who needed English remediation. Both tables cover a three-year span from fall 2002 through fall 2004.

In all three years, a higher percentage of females were required to take Math remediation (males 12.4 percent and females 16.9 percent, in 2004). Conversely, a slightly higher percentage of males needed English remediation than did females (males 8.4 percent and females 7.8 percent, in 2004). The percentage for both males and females needing Math remediation increased (males from 9.4 percent to 12.4 percent and females from 14.4 percent to 16.9 percent). However, for both males and females, the percentages needing English remediation declined slightly from fall 2002 to fall 2004 (males from 9.0 percent to 8.4 percent and females from 8.0 percent to 7.8 percent).

The need for remediation is closely related to performance on the ACT examination and to high school class rank: the higher the student's ACT score and class rank, the less likely the need for remediation. In fall 2004, 50.8 percent of students achieving an ACT Math score of 18 or below needed Math remediation. Similarly, 30.7 percent of students achieving an ACT English score of 18 or below needed English remediation. For students who ranked in the lowest quartile of their high school class, 41.4 percent required Math remediation and 21.8 percent required English remediation, contrasting sharply with the highest quartile in which 5.4 percent required Math remediation and 2.5 percent required English remediation. However, in fall 2004, only 4.0 percent of UW new freshmen were in the lowest quartile, while 46.8 percent were in the highest quartile. Grouping the new freshmen into bottom and top half of high school rank, 30.1 percent of the students from the bottom half of their high school class required Math remediation and 18.6 percent needed English remediation. This compares to 10.9 percent of students in the top half who required Math remediation and 5.7 percent who needed English remediation. (Note that the percentages provided in this paragraph are based on the proportion of students for whom high school rank and/or ACT score were available.)

Tables 1 and 2 also report remediation needs of new freshmen by race/ethnicity. In general, students of color entering the UW System as new freshmen require more Math and English remediation. Among students of color entering as new freshmen, African Americans are most likely to require Math remediation (55 percent in fall 2004) and English remediation (40 percent in fall 2004).

Table 1
Students Needing Math Remediation
as a Percent of All New Freshmen
by Student Characteristic

Category	Characteristic	FALL 2002			FALL 2003			FALL 2004		
		All New Fresh	Need Remed	%	All New Fresh	Need Remed	%	All New Fresh	Need Remed	%
Gender	Male	12,151	1,147	9.4%	12,600	1,378	10.9%	12,770	1,585	12.4%
	Female	15,310	2,201	14.4%	15,674	2,625	16.7%	15,635	2,643	16.9%
ACT Math Score*	18 or Lower	5,084	2,272	44.7%	5,457	2,699	49.5%	5,523	2,807	50.8%
	19	1,601	269	16.8%	1,493	331	22.2%	1,883	407	21.6%
	20-21	3,327	298	9.0%	3,188	383	12.0%	2,910	359	12.3%
	22-26	9,188	174	1.9%	9,480	291	3.1%	9,519	281	3.0%
	27-36	6,158	13	0.2%	6,415	11	0.2%	6,552	9	0.1%
H.S. Rank	Bottom Quartile	995	328	33.0%	929	364	39.2%	974	403	41.4%
	3 rd Quartile	3,982	915	23.0%	3,861	1,052	27.2%	3,940	1,078	27.4%
	2 nd Quartile	8,332	1,280	15.4%	8,568	1,589	18.5%	8,052	1,496	18.6%
	Top Quartile	11,499	485	4.2%	11,731	628	5.4%	11,419	615	5.4%
Race / Ethnicity	African American	735	314	42.7%	743	401	54.0%	874	483	55.3%
	American Indian	151	36	23.8%	169	34	20.1%	183	51	27.9%
	Southeast Asian	503	92	18.3%	448	104	23.2%	516	108	20.9%
	Other Asian	459	33	7.2%	524	62	11.8%	562	72	12.8%
	Hispanic/Latino	550	143	26.0%	603	164	27.2%	669	211	31.5%
	<i>Student of Color Subtotal</i>	<i>2,398</i>	<i>618</i>	<i>25.8%</i>	<i>2,487</i>	<i>765</i>	<i>30.8%</i>	<i>2,804</i>	<i>925</i>	<i>33.0%</i>
	White/ International	25,063	2,730	10.9%	25,787	3,238	12.6%	25,601	3,303	12.9%
Total	All Char.	27,461	3,348	12.2%	28,274	4,003	14.2%	28,405	4,228	14.9%

* Subtotals do not necessarily sum to 100% due to missing data.

Table 1 (Math)

- ◆ The percentage of new freshmen requiring Math remediation increased from fall 2002 to fall 2004.
- ◆ Women were more likely to require Math remediation than men. Overall, Math remediation was required more than English remediation.
- ◆ The data show a relationship between performance on ACT and need for Math remediation.
- ◆ There is also a relationship between high school class rank and the need for Math remediation.
- ◆ Among students of color, African Americans are most likely to require Math remediation.

Table 2
Students Needing English Remediation
as a Percent of All New Freshmen
by Student Characteristic

Category	Characteristic	FALL 2002			FALL 2003			FALL 2004		
		All New Fresh	Need Remed	%	All New Fresh	Need Remed	%	All New Fresh	Need Remed	%
Gender	Male	12,151	1,092	9.0%	12,600	1,075	8.5%	12,770	1,075	8.4%
	Female	15,310	1,220	8.0%	15,674	1,277	8.1%	15,635	1,217	7.8%
ACT English Score*	18 or Lower	5,502	1,786	32.5%	5,699	1,840	32.3%	5,942	1,827	30.7%
	19	1,961	137	7.0%	1,835	152	8.3%	1,607	123	7.7%
	20-21	4,435	178	4.0%	4,552	169	3.7%	4,307	149	3.5%
	22-26	8,541	58	0.7%	8,859	66	0.7%	9,109	38	0.4%
	27-36	4,919	4	0.1%	5,088	1	0.0%	5,422	1	0.0%
H.S. Rank	Bottom Quartile	995	191	19.2%	929	201	21.6%	974	212	21.8%
	3 rd Quartile	3,982	645	16.2%	3,861	671	17.4%	3,940	700	17.8%
	2 nd Quartile	8,332	954	11.4%	8,568	1,000	11.7%	8,052	827	10.3%
	Top Quartile	11,499	334	2.9%	11,731	304	2.6%	11,419	286	2.5%
Race / Ethnicity	African American	735	305	41.5%	743	305	41.0%	874	350	40.0%
	American Indian	151	20	13.2%	169	18	10.7%	183	33	18.0%
	Southeast Asian	503	169	33.6%	448	136	30.4%	516	149	28.9%
	Other Asian	459	45	9.8%	524	68	13.0%	562	71	12.6%
	Hispanic/Latino	550	110	20.0%	603	108	17.9%	669	117	17.5%
	<i>Student of Color Subtotal</i>	2,398	649	27.1%	2,487	635	25.5%	2,804	720	25.7%
	White/ International	25,063	1,663	6.6%	25,787	1,717	6.7%	25,601	1,572	6.1%
Total	All Char.	27,461	2,312	8.4%	28,274	2,352	8.3%	28,405	2,292	8.1%

* Subtotals do not necessarily sum to 100% due to missing data.

Table 2 (English)

- ◆ The percentage of new freshmen requiring English remediation decreased slightly from fall 2002 to fall 2004.
- ◆ Men were slightly more likely to require English remediation than women.
- ◆ The data show a relationship between performance on ACT and need for English remediation.
- ◆ There is also a relationship between high school class rank and the need for English remediation.
- ◆ Among students of color, African Americans are most likely to require English remediation.

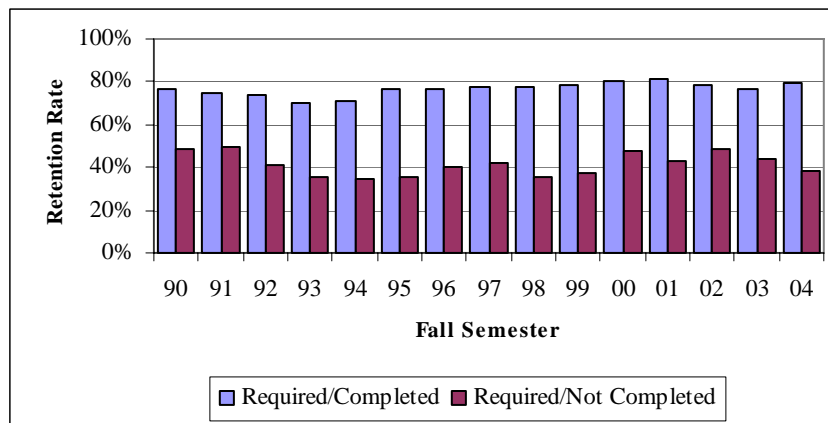
Section III: First-to-Second-Year Retention by Math and English Remediation

Historical Trends: Fall 1990 through Fall 2004

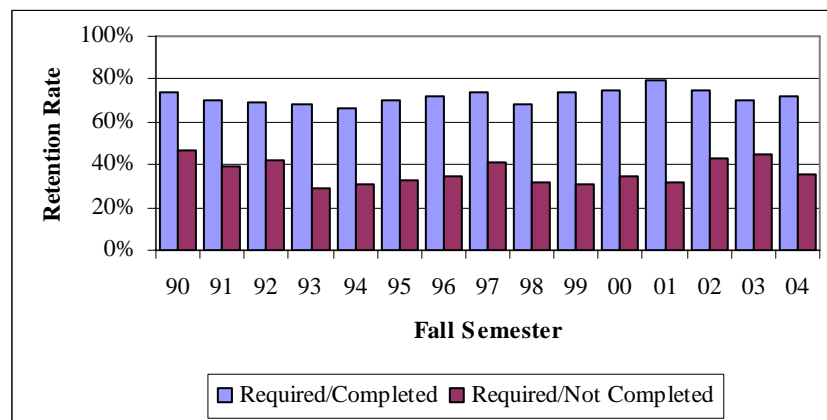
Charts 3 and 4 provide trend data for the retention rates of students who needed and completed remediation, compared with students who needed remediation but did not complete the remedial requirement. Chart 3 provides retention rates for students who were required to take Math remediation, and Chart 4 provides retention rates for students who were required to take English remediation.

The first-to-second-year retention gap between students who completed remediation and students who did not complete remediation is similar for both Math remediation and English remediation. In the case of Math remediation, the average first-to-second year retention gap, over the 15-year time span, was 35 percentage points. For English remediation, the average first-to-second-year retention gap, over the 15-year time span, was 35 percentage points. In both Math remediation and English remediation, first-to-second-year retention rates decrease from around 70 percent for completers to around 40 percent for non-completers. This is a significant difference in terms of first-to-second-year retention, and highlights the need to encourage students requiring remediation to make completion a priority within their first year of college.

**Chart 3
Math Remediation**



**Chart 4
English Remediation**



First-to-Second-Year Retention of Fall 2004 New Freshmen in Detail

Figures 1 and 2 (see pages 8 and 9) exhibit second-year retention of fall 2004 new freshmen. Comparisons are presented regarding the retention of students who needed remediation and those who did not. Further comparisons are shown among those who required remediation with respect to the completion of this requirement. Figure 1 presents retention in relation to Math remediation, and Figure 2 presents retention in relation to English remediation.

The figures show that students who required remediation were less likely to be retained to the second year than students who did not need remediation. The differences in retention rates between those who required remediation and those who did not were similar for both Math and English remediation (14.2 percentage points lower for students identified as needing remedial Math, and 14.6 percentage points lower for students needing English remediation). However, for those who needed and completed remediation during their first year, retention rates were comparable to the rates for the students who did not need remediation at all. About 79 percent of students who needed and completed Math remediation were retained to the following year, while only 38.3 percent of those who needed, but did not complete the requirement were retained. Similarly, almost 72 percent of students who needed and completed English remediation were retained to the following year, as compared with only 35.8 percent of students who needed but did not complete remediation. This finding may indicate the effectiveness of the remediation programs that are offered at UW institutions. However, there may be other factors or student characteristics that influence these outcomes, including the variety of student support services that provide training and other assistance to students who need better study techniques, learning strategies, and other higher education survival skills.

Key Findings

Figure 1 (Math)

- ◆ Math remediation was required by 14.9 percent of new freshmen.
- ◆ Of the new freshmen who did not require Math remediation, 77.6 percent were retained.
- ◆ Of those who were required to take remediation, 61 percent completed the requirement within one year.
- ◆ Of those who needed and completed Math remediation during their first year, 79.4 percent were retained to the second year, as compared with 38.3 percent of those who did not complete the requirement during their first year.

Figure 2 (English)

- ◆ English remediation was required by 8.1 percent of new freshmen.
- ◆ Of the new freshmen who did not require English remediation, 76.7 percent were retained.
- ◆ Of those who were required to take remediation, 72.2 percent completed the requirement within one year.
- ◆ Of those who needed and completed English remediation during their first year, 72.3 percent were retained to the second year, as compared with 35.8 percent of those who did not complete the requirement during their first year.

Figure 1
Retention to the Second Year of Fall 2004 New Freshmen
by Completion of Math Remedial Requirement

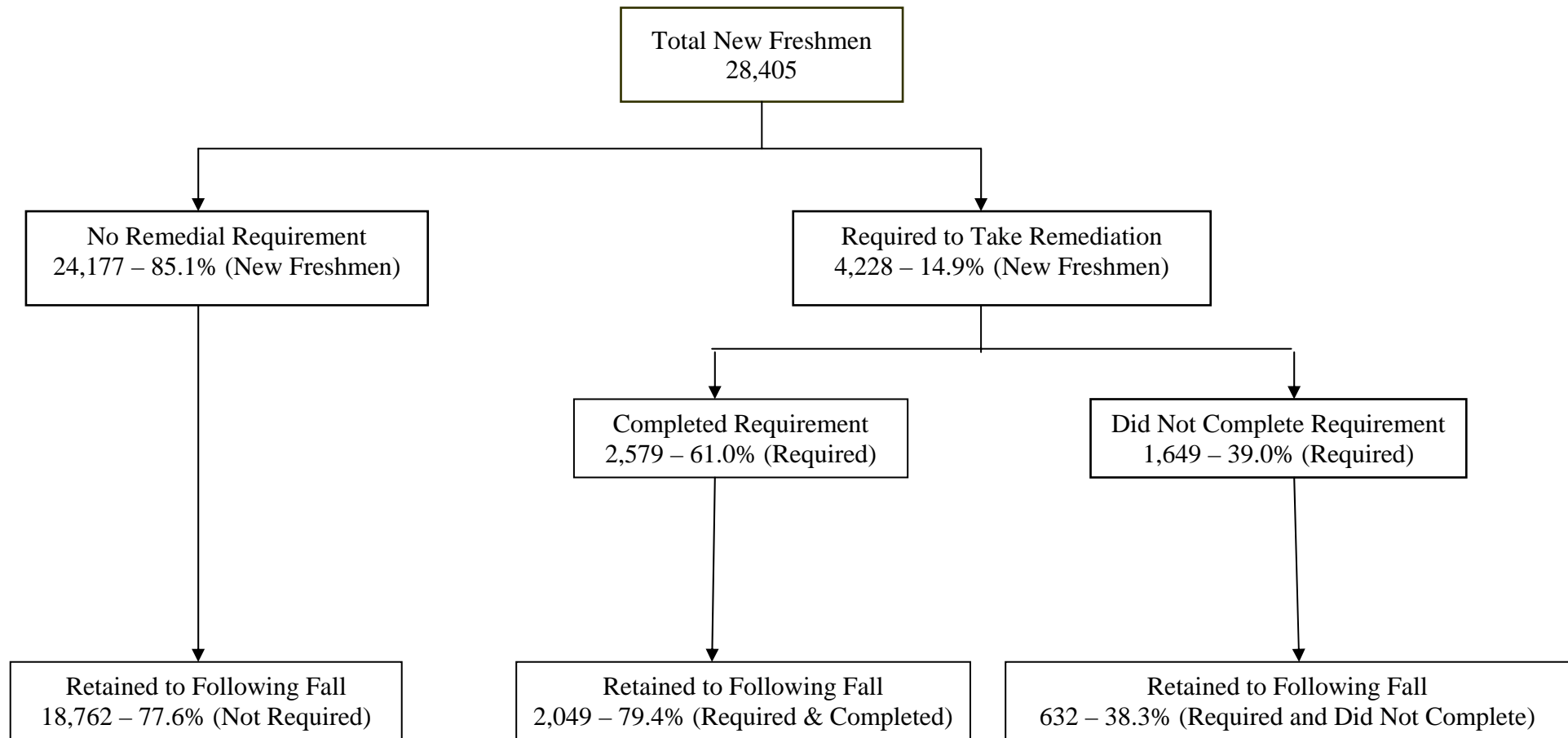
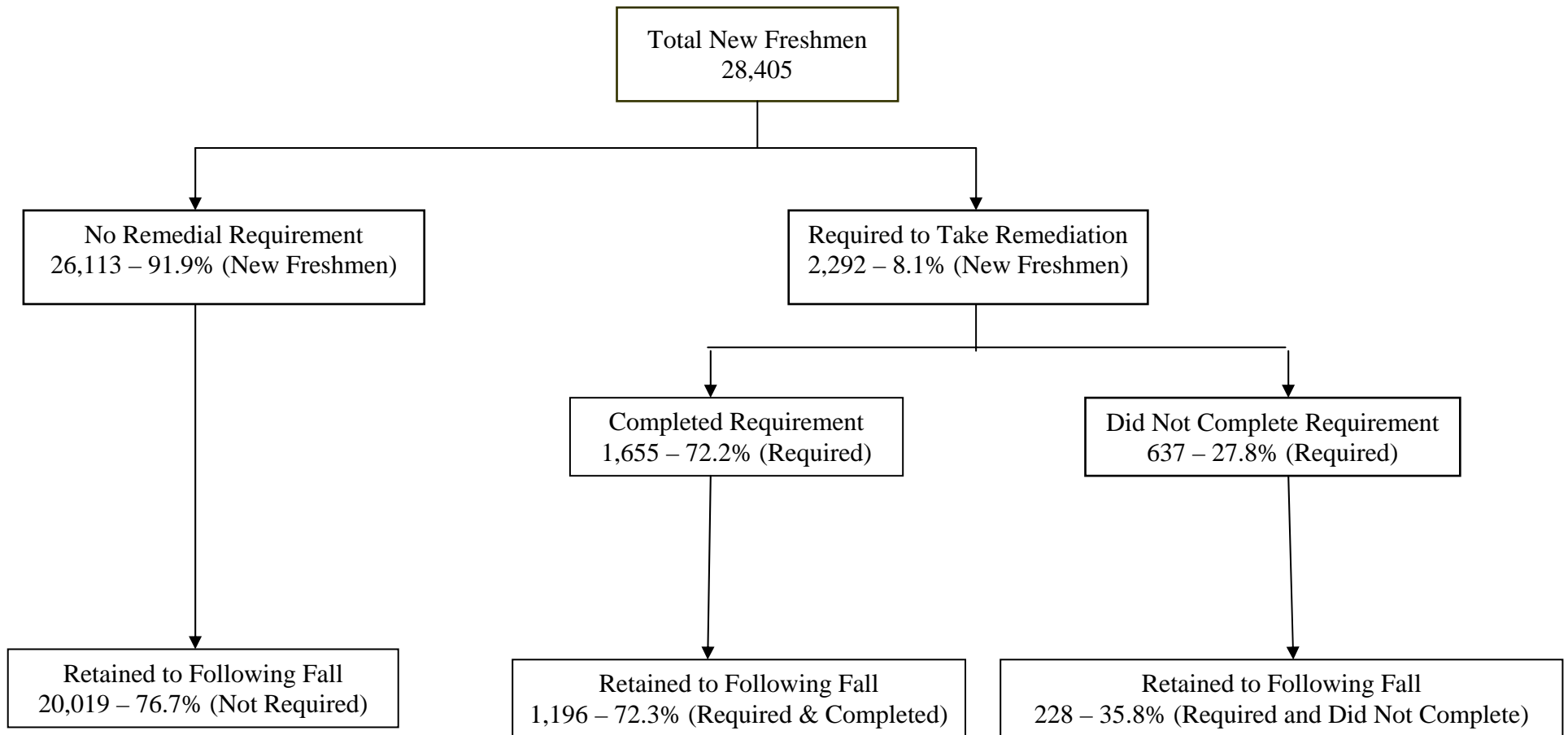


Figure 2
Retention to the Second Year of Fall 2004 New Freshmen
by Completion of English Remedial Requirement



Section IV: Six-Year Graduation Rate by Math and English Remediation

Figures 3 and 4 (see pages 11 and 12) exhibit six-year graduation rates of the fall 1999 cohort of entering freshmen. These graduation rates are for all students who started at one UW institution and graduated from any institution within the UW System. Comparisons are presented regarding the graduation rates of students who needed remediation and those who did not. Figure 3 presents six-year graduation rates in relation to Math remediation, and Figure 4 presents six-year graduation rates in relation to English remediation.

While graduation rates of new freshmen identified as needing remediation are lower than those of new freshmen who do not require remediation, a significant percentage of students requiring remediation successfully complete their undergraduate education. Since all students identified as needing remediation are required to complete their remediation long before graduation, it is difficult to isolate the specific impact of remedial programs on the ability to complete a baccalaureate degree within six years. There are a variety of additional intervening factors that may influence any student's likelihood of graduating with a baccalaureate, including: finances, family obligations, social issues, employment opportunities, personal motivation, etc.

Key Findings

Figure 3 (Math)

- ◆ Math remediation was required by 10.9 percent of new freshmen.
- ◆ Of students who did not require Math remediation, 66.1 percent graduated in six years.
- ◆ Of those who needed and completed remediation, 52.5 percent graduated in six years.
- ◆ Of those who needed Math remediation, 73.2 percent completed the requirement.

Figure 4 (English)

- ◆ English remediation was required by 6.0 percent of new freshmen.
- ◆ Of students not required to take remedial courses, 64.9 percent graduated in six years.
- ◆ Of those who needed and completed remediation, 44.6 percent graduated in six years.
- ◆ Of those who needed English remediation, 81.9 percent completed the requirement.

Figure 3
Six-Year Graduation Rate of Fall 1999 New Freshmen
by Completion of Math Remedial Requirement
 (Starting at one UW Institution and Graduating From any UW Institution)

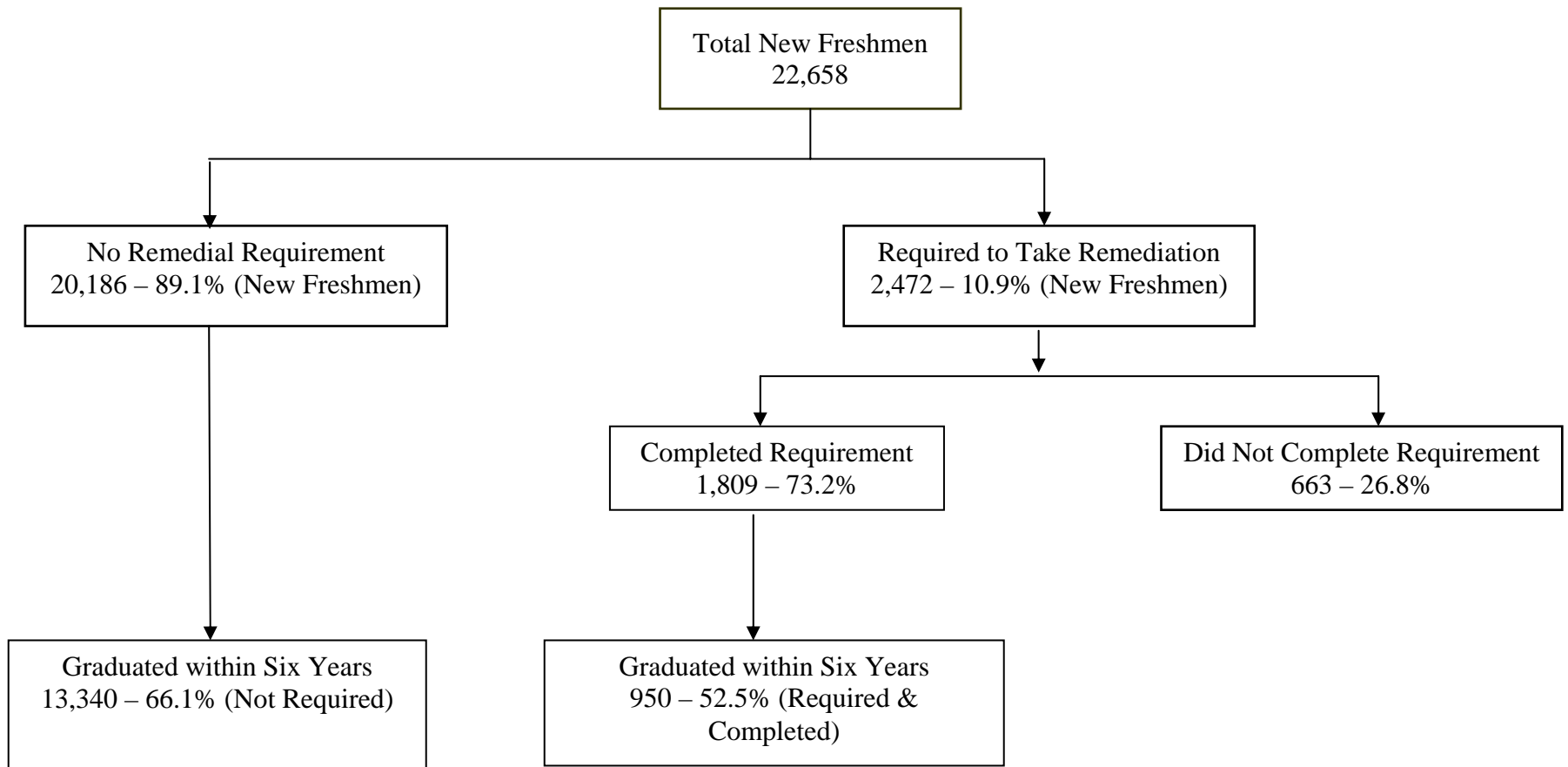
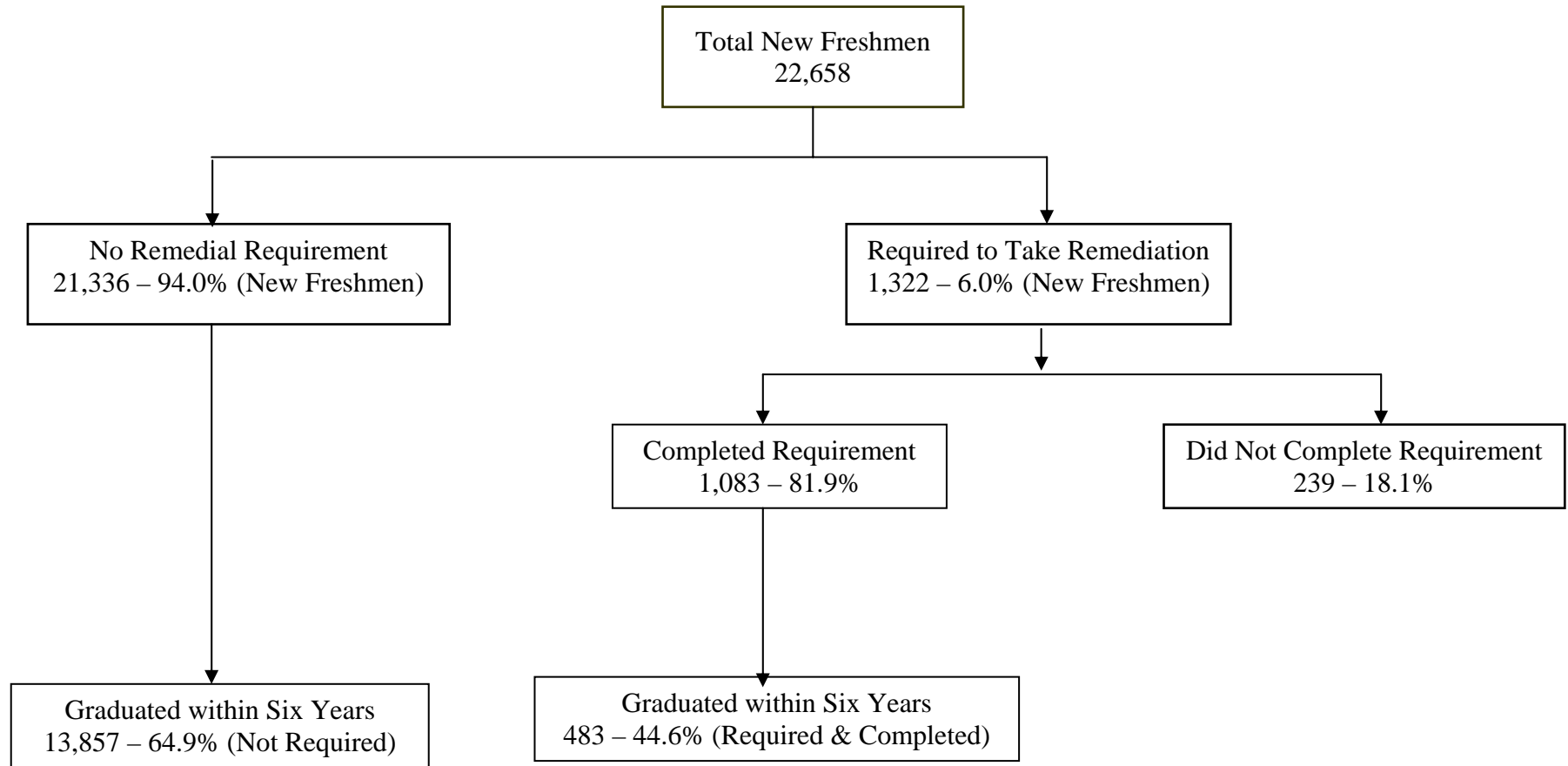


Figure 4
Six-Year Graduation Rate of Fall 1999 New Freshmen
by Completion of English Remedial Requirement
 (Starting at one UW Institution and Graduating From any UW Institution)



Appendix A

University of Wisconsin System Regent Policy Documents

(Source: http://www.uwsa.edu/bor/rpd/bor_pols.pdf)

88-16 REMEDIAL EDUCATION POLICY

History: Res. 5088 adopted 11/11/88; amended by Res. 5957 and 5958, 11/91.

1. New freshman who are admitted to institutions of the University of Wisconsin System in accord with criteria approved by the Board of Regents and whose scores on English or mathematics placement or proficiency tests indicate a low probability for success in college level courses in either or both of those subjects shall be required to complete successfully the necessary remedial courses prior to completion of 30 credits. Institutions may grant exceptions to individual students; however, they must clearly document the reasons for such exceptions.
2. Remedial courses in English and mathematics shall not generate credit toward a degree from institutions in the University of Wisconsin System.
3. Remedial courses in English and mathematics offered by institutions of the University of Wisconsin System may be taught by faculty and staff they employ, through University of Wisconsin-Extension, or through contractual arrangements with local VTAE units. An institution's remedial courses should be available for students on its campus. The faculty of the University of Wisconsin System shall control the content, standards, and methods of instruction in its remedial courses.
4. The appropriate credit load for all students enrolled in remedial courses will be determined by the institution. The institution will be expected to advise students carefully about the appropriate number of credits based on students' high school performance and test scores. Beginning in fall of 1990 each institution will provide an annual report to System Administration on the number of new freshman identified as needing remediation in English and/or mathematics and the number who successfully completed remedial courses in English and/or mathematics. The president will use this information to compile an annual report for the Board of Regents.*
5. No later than fall, 1991, all remedial courses in the University of Wisconsin System shall be offered on a fee recovery basis.
6. By October 1989, the University of Wisconsin System shall develop a detailed statement of the minimum college-level skills and competencies students are expected to have in English and mathematics upon entrance to the University. This statement shall be widely circulated and periodically up-dated. It should form the basis for college-preparatory courses in English and mathematics offered by secondary schools and for remedial courses offered by the University.

An initial screening for these competencies shall include admitted freshmen's scores on the "ACT" and any other additional performance criteria that each UW System institution may choose. Students who score above the UW System-established level on the "ACT" mathematics and English subtests are expected to have a high probability of success in college-level courses and may be exempted from further testing. For students who score below the UW System-established level, each institution shall determine the specific instruments and performance criteria used for placement in college-level or remedial courses. Information about the UW System-established level on "ACT" mathematics and English subtests and each institution's instruments and performance criteria shall be made available to the secondary schools and to potential University of Wisconsin students.

7. The University of Wisconsin System will cooperate with the Department of Public Instruction in developing a plan for assessing English and mathematics skills of high school students throughout the state. Examination results shall be made available to students, their parents, and their schools. Students whose scores suggest they are unlikely to place into college-level English and mathematics courses upon entering college shall be encouraged to take courses in high school that are designed to improve their English and mathematics competencies and lessen the possibility of their placing into remedial courses.

*Reporting period changed to once every three years by Res. 7382, 2/7/97.

Appendix B

Students Needing Math Remediation by Institution Fall 2002 through Fall 2004

Institution	Fall 2002		Fall 2003		Fall 2004	
	# Req Rem	% of Total New Freshmen	# Req Rem	% of Total New Freshmen	# Req Rem	% of Total New Freshmen
UW-Madison	53	1.0%	48	0.9%	44	0.8%
UW-Milwaukee	558	16.8%	1,136	29.5%	1,116	29.2%
UW-Eau Claire	132	6.4%	138	7.4%	150	7.4%
UW-Green Bay	127	13.9%	162	16.7%	188	18.8%
UW-La Crosse	77	5.0%	42	2.8%	51	3.3%
UW-Oshkosh	209	11.5%	147	8.2%	159	9.2%
UW-Parkside	421	50.6%	533	54.6%	545	55.3%
UW-Platteville	89	7.9%	95	8.4%	164	13.6%
UW-River Falls	90	8.5%	165	13.4%	151	12.5%
UW-Stevens Point	116	7.9%	131	8.7%	149	9.7%
UW-Stout	105	8.0%	92	7.2%	127	9.8%
UW-Superior	140	44.6%	185	53.6%	156	45.0%
UW-Whitewater	420	20.6%	441	24.1%	390	22.1%
UW Colleges	811	19.6%	688	15.7%	838	19.5%
Total	3,348	12.2%	4,003	14.2%	4,228	14.9%

Note: UW institutions use incoming students' scores on the UW System Mathematics Placement Test, ACT/SAT Math subscores, or a combination of these scores to determine if mathematics remediation is needed. Cutoff scores for mathematics remediation differ across the UW institutions.

**Students Needing English Remediation
by Institution
Fall 2002 through Fall 2004**

Institution	Fall 2002		Fall 2003		Fall 2004	
	# Req Rem	% of Total New Freshmen	# Req Rem	% of Total New Freshmen	# Req Rem	% of Total New Freshmen
UW-Madison	4	0.1%	0	0.0%	0	0.0%
UW-Milwaukee	792	23.9%	799	20.7%	695	18.2%
UW-Eau Claire	27	1.3%	21	1.1%	15	0.7%
UW-Green Bay	69	7.5%	79	8.1%	77	7.7%
UW-La Crosse	38	2.4%	18	1.2%	22	1.4%
UW-Oshkosh	72	4.0%	29	1.6%	42	2.4%
UW-Parkside	245	29.4%	389	39.9%	426	43.2%
UW-Platteville	60	5.3%	58	5.1%	69	5.7%
UW-River Falls	NA	NA	29	2.4%	36	3.0%
UW-Stevens Point	NA	NA	NA	NA	NA	NA
UW-Stout	226	17.2%	191	14.9%	185	14.3%
UW-Superior	61	19.4%	63	18.3%	49	14.1%
UW-Whitewater	333	16.4%	271	14.8%	157	8.9%
UW Colleges	385	9.3%	405	9.2%	519	12.1%
Total	2,312	8.4%	2,352	8.3%	2,292	8.1%

NA = "Not Applicable" or "Not Available"

Note: UW institutions use incoming students' scores on the UW System English Placement Test, ACT/SAT English subscores, or a combination of these scores to determine if English remediation is needed. Cutoff scores for English remediation differ across the UW institutions.