

# IR&P Research Brief

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## Indices of Student Enrollment and Success

This Research Brief summarizes nine Hartnell College student enrollment and success indices by division across time (fall semesters 2000 through 2004 for all indices except high school graduates attending Hartnell). Indices include: (1) number of full-time equivalent students (FTES), (2) number of course enrollments, (3) number of course sections, (4) number of course enroll-

ments per section, (5) course retention rate, (6) course success rate, (7) course efficiency ratio, (8) course revenue to faculty cost ratio, and (9) proportion of recent high school graduates attending Hartnell College. These data should enable decision makers to examine trends across time and identify areas where there is satisfactory progress, as well as areas where improvement is needed.

Note that data for some indices are incomplete, as specified in designated results sections, and, thus, should be interpreted with caution.

### Full-Time Equivalent Students (FTES)

A Full-Time Equivalent Student (FTES) approximately represents one student taking 15 units per semester. FTES provides the primary

Table 1. College-Wide Totals for Selected Measures in Fall Semesters by Time of Day Attended and Year

Measure	2000			2001			2002			2003			2004			2000 to 2004 Percent Change <sup>1</sup>		
	Day	Eve.	Total <sup>2</sup>	Day	Eve.	Total <sup>2</sup>	Day	Eve.	Total <sup>2</sup>	Day	Eve.	Total <sup>2</sup>	Day	Eve.	Total <sup>2</sup>	Day	Eve.	Total <sup>2</sup>
Full-Time Equivalent Students (FTES)	2,020	809	2,845	1,599	864	2,467	2,352	1,012	3,364	1,975	815	2,797	1,784	746	2,728	-12%	-8%	-4%
Enrollment	17,973	6,738	25,669	15,074	7,728	22,838	21,046	9,336	30,389	19,217	7,393	26,637	17,412	7,424	24,873	-3%	10%	-3%
Course Sections <sup>3,4</sup>	597	262	880	620	297	921	644	314	962	554	243	798	576	266	843	-4%	2%	-4%
Enrollment per Section <sup>3,4</sup>	30	26	29	24	26	25	33	30	32	35	30	33	30	28	30	<1%	9%	1%
Course Retention Rate <sup>3,5</sup>	77%	80%	79%	72%	80%	75%	75%	83%	78%	76%	83%	78%	79%	85%	81%	1%	5%	2%
Course Success Rate <sup>3,6</sup>	66%	72%	68%	65%	75%	68%	63%	75%	67%	64%	74%	67%	66%	74%	69%	<1%	2%	<1%
Efficiency <sup>3,7</sup>	447	415	437	361	455	388	512	561	527	483	585	510	475	469	474	6%	13%	8%
Revenue to Faculty Cost Ratio <sup>8</sup>	2.0	3.0	2.2	1.8	2.8	2.1	2.5	3.2	2.7	2.2	3.5	2.5	1.8	2.5	2.1	-10%	-15%	-4%

<sup>1</sup> Some displayed numbers are rounded, while percent change calculations use unrounded numbers.

<sup>2</sup> Includes weekend and other enrollments.

<sup>3</sup> Does not include Joint Consortium-Administration of Justice or Fire Science data.

<sup>4</sup> Excludes secondary, internship, work experience, special projects, and individualized study sections.

<sup>5</sup> Retention Rate = (enrollment - withdrawals) / enrollment.

<sup>6</sup> Success Rate = proportion of students receiving grades of A, B, C, or Credit.

<sup>7</sup> Efficiency = Weekly Student Contact Hours/Full-time Equivalent Faculty. Full-time Equivalent Faculty are not specified for instructional faculty contracted for 35 hours per week. As a result, efficiency totals may be overestimated for some disciplines and divisions.

<sup>8</sup> Revenue to Faculty Cost Ratio = revenue / (faculty salary + benefits). Faculty costs are not included for retired faculty and instructional faculty contracted for 35 hours per week. As a result, revenue to faculty cost ratio may be overestimated for some disciplines and divisions.

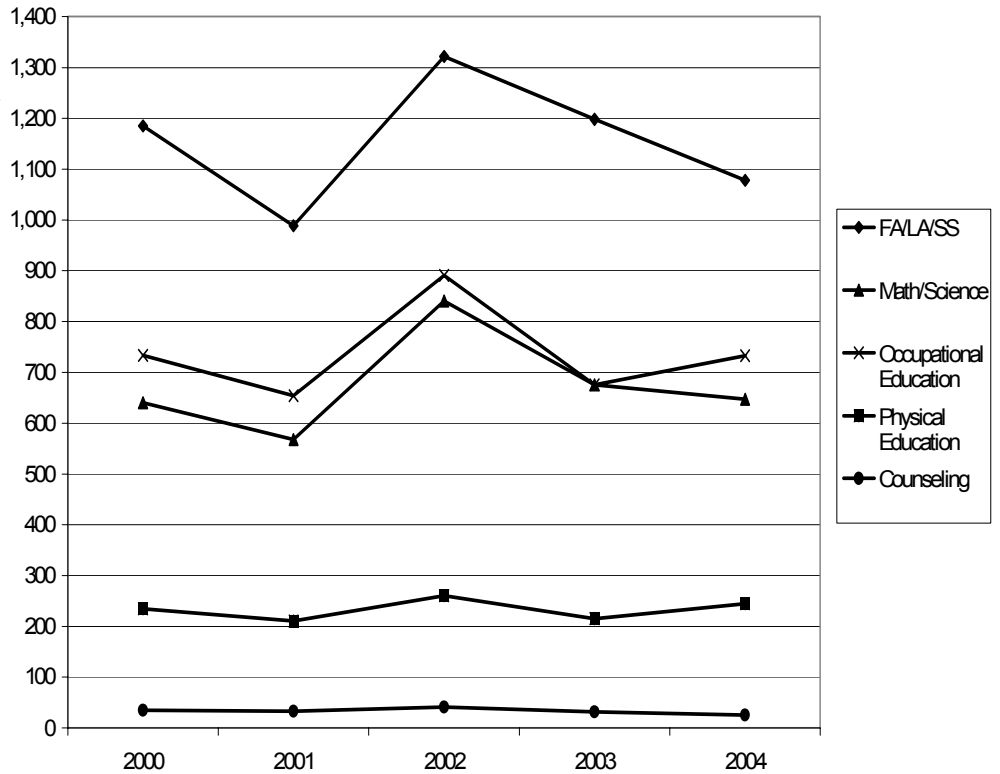
basis for determining Hartnell College's state revenue. Table 1 shows that total FTES decreased from 2,845 in fall 2000 to a low of 2,467 in 2001 before increasing to a high of 3,364 in 2002. This was followed by a two-year decrease to 2,728 in 2004, which is 4% lower than 2000. A greater decrease in FTES was seen in courses offered during the day (-12%) than those offered in the evening (-8%) during this four-year period. The total FTES decrease is less than both the day and evening decreases because it incorporates FTES that is not included in either the day or evening totals, such as weekend and South Bay Regional Public Safety Consortium courses.

Graph 2 indicates that between 2000 and 2004, increases in total FTES were realized by the Math/Science (1% increase) and Physical Education (PE) (4% increase) divisions, while decreases occurred in the Fine Arts/Language Arts/Social Science (FA/LA/SS) (-9%) and Counseling (-27%) divisions.

**Enrollment**

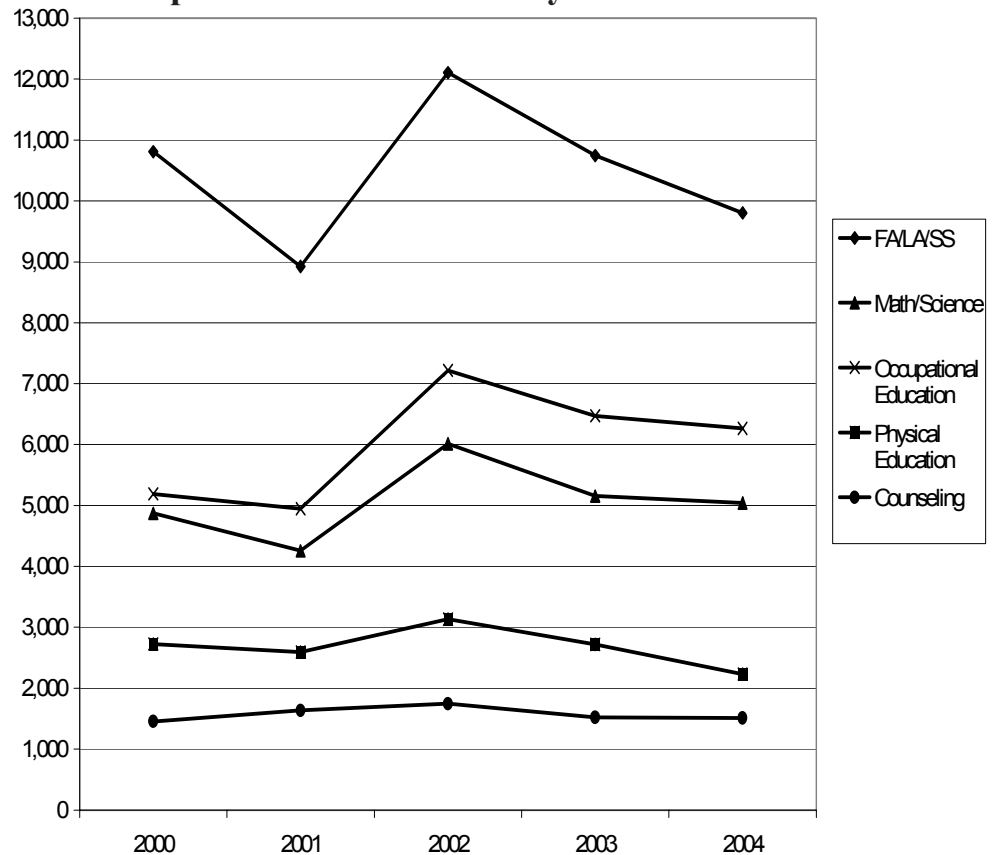
The total duplicated enrollment follows the same trend as FTES, as displayed in Table 1. Duplicated enrollment counts each course taken as an enrollment. Thus, a student enrolled in three courses is counted three times. The enrollment was lowest in 2001 (22,838) and peaked at 30,389 in 2002. Enrollments then decreased steadily to 24,873 in 2004, which is 3% lower than 2000. However, enrollments in courses offered during the day decreased by 3% while courses offered during the evening increased

**Graph 2. Fall FTES<sup>1</sup> by Year and Division**



<sup>1</sup>FTES = Full-Time Equivalent Students.

**Graph 3. Fall Enrollment by Year and Division**



by 10% during this period. These differences reflect the number of course sections offered during the day and evening sessions.

Between 2000 and 2004, enrollment increases occurred in the Math/Science (3% increase), Occupational Education (21% increase), and Counseling (4% increase) divisions, while there were losses in FA/LA/SS (-9%) and PE (-18%), as shown in Graph 3.

**Course Sections**

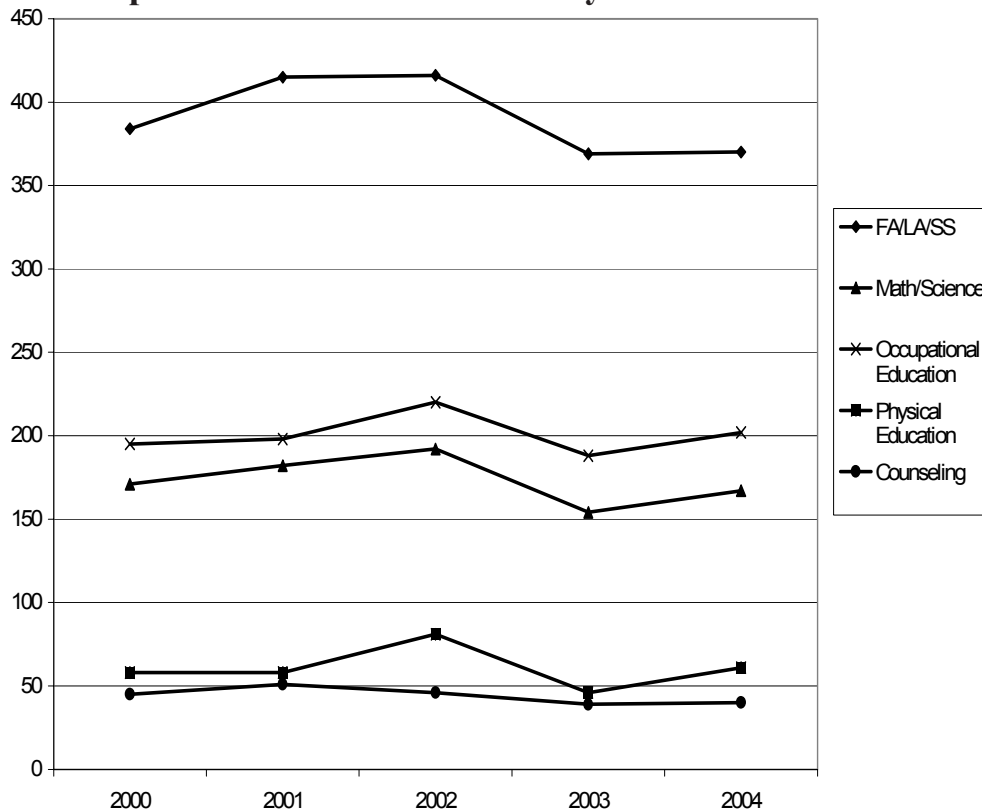
Table 1 shows that the number of total course sections offered, excluding secondary, internship, work experience, special projects, and individualized study sections, increased from 880 in fall 2000 to a high of 962 in 2002 before decreasing to 843 in 2004. There were 4% fewer course sections offered in 2004 than in 2000. However, 4% fewer course sections were offered during the day, while 2% more sections were offered in the evening between 2000 and 2004.

Between 2000 and 2004, PE increased the number of course sections offered by 5% and the Occupational Education Division increased by 4%. Other major divisions all offered fewer sections during this period (FA/LA/SS (-4%), Math/Science (-2%), and Counseling (-11%)), as depicted in Graphs 4.

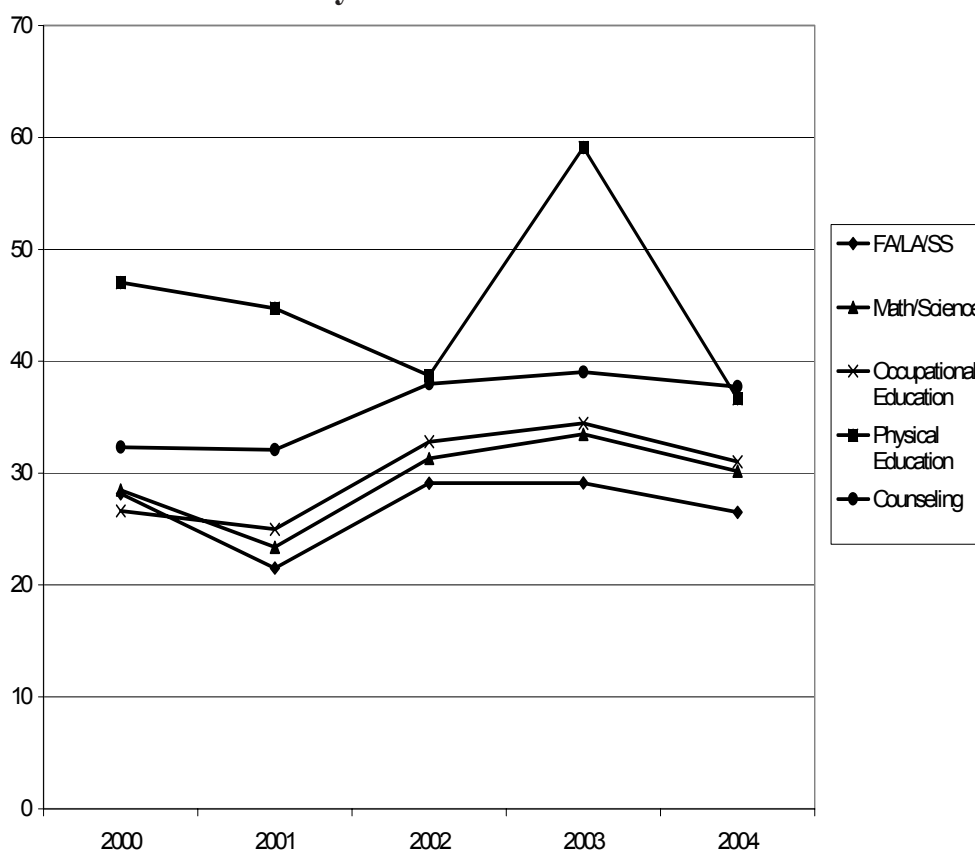
**Enrollment per Course Section**

The average number of students enrolled in each course section decreased from 29 in fall 2000 to a low of 25 in 2001 before increasing to a high of 33 in 2003, as displayed in Table 1. The average then de-

**Graph 4. Fall Course Sections by Year and Division**



**Graph 5. Fall Enrollment per Course Section by Year and Division**



**Graph 6. Fall Course Retention Rate<sup>1</sup> by Year and Division**

creased to 30 students per section in 2004, which is 1% higher than in 2000. The average for day courses increased by less than 1%, while the average for night courses increased by 9% during this time.

Graph 5 shows that the average enrollment per section increased for Occupational Education (17% increase), Math/Science (6% increase), and Counseling (17% increase) divisions, but decreased in FA/LA/SS (-6%) and PE (-22%) between 2000 and 2004.

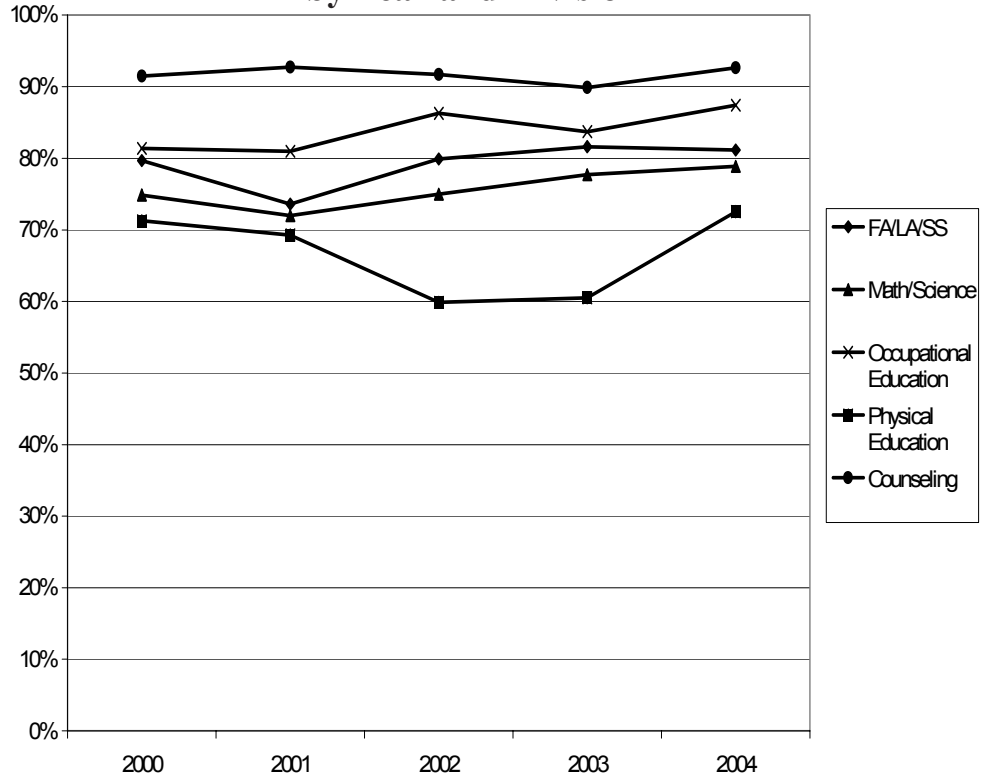
**Course Retention Rate**

The course retention rate is the proportion of students who complete a course (i.e., do not withdraw) during a semester. As shown in Table 1, the total course retention rate decreased from 79% in fall 2000 to a low of 75% in fall 2001. Thereafter it increased steadily to a high of 81% in 2004, which is 2% higher than 2000. The course retention rate increased more in evening course sections (5%) than in day course sections (1%) during this period.

Increases in course retention rates were realized by all major instructional divisions between 2000 and 2004, including FA/LA/SS (1%), Math/Science (4%), Occupational Education (4%), PE (1%), and Counseling (1%), as depicted in Graphs 6.

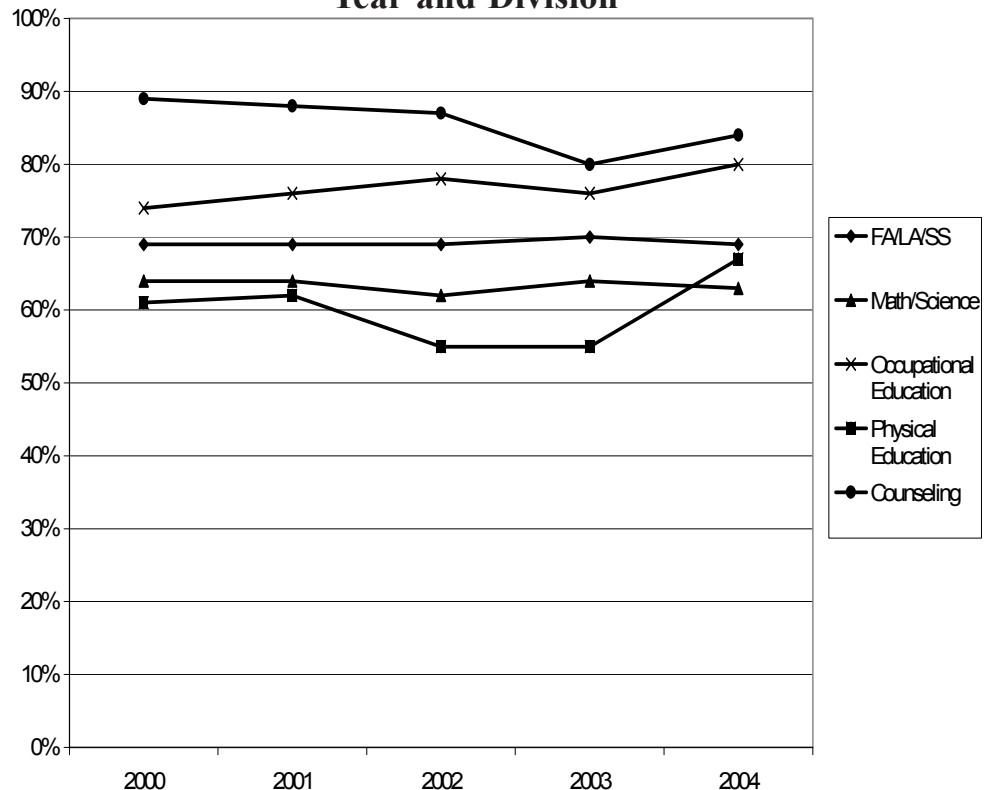
**Course Success Rate**

Course success rate is the proportion of students receiving grades of A, B, C or Credit. The total course success rate was lowest (67%) in 2002 and 2003, and highest (69%) in 2004, which is less than 1% higher than 2000 (see Table 1). The course



<sup>1</sup>Retention Rate = (enrollment - withdrawals) / enrollment.

**Graph 7. Fall Course Success Rate<sup>1</sup> by Year and Division**



<sup>1</sup>Success Rate = proportion of students receiving grades of A, B, C, or Credit.

success rate increased by less than 1% for day course sections and by 2% for evening course sections between 2000 and 2004.

Graphs 7 show that course success rates increased for the Occupational Education (2% increase) and PE (6% increase) divisions, but decreased for Math/Science (-1%) and Counseling (-5%) between 2000 and 2004.

**Efficiency Ratio**

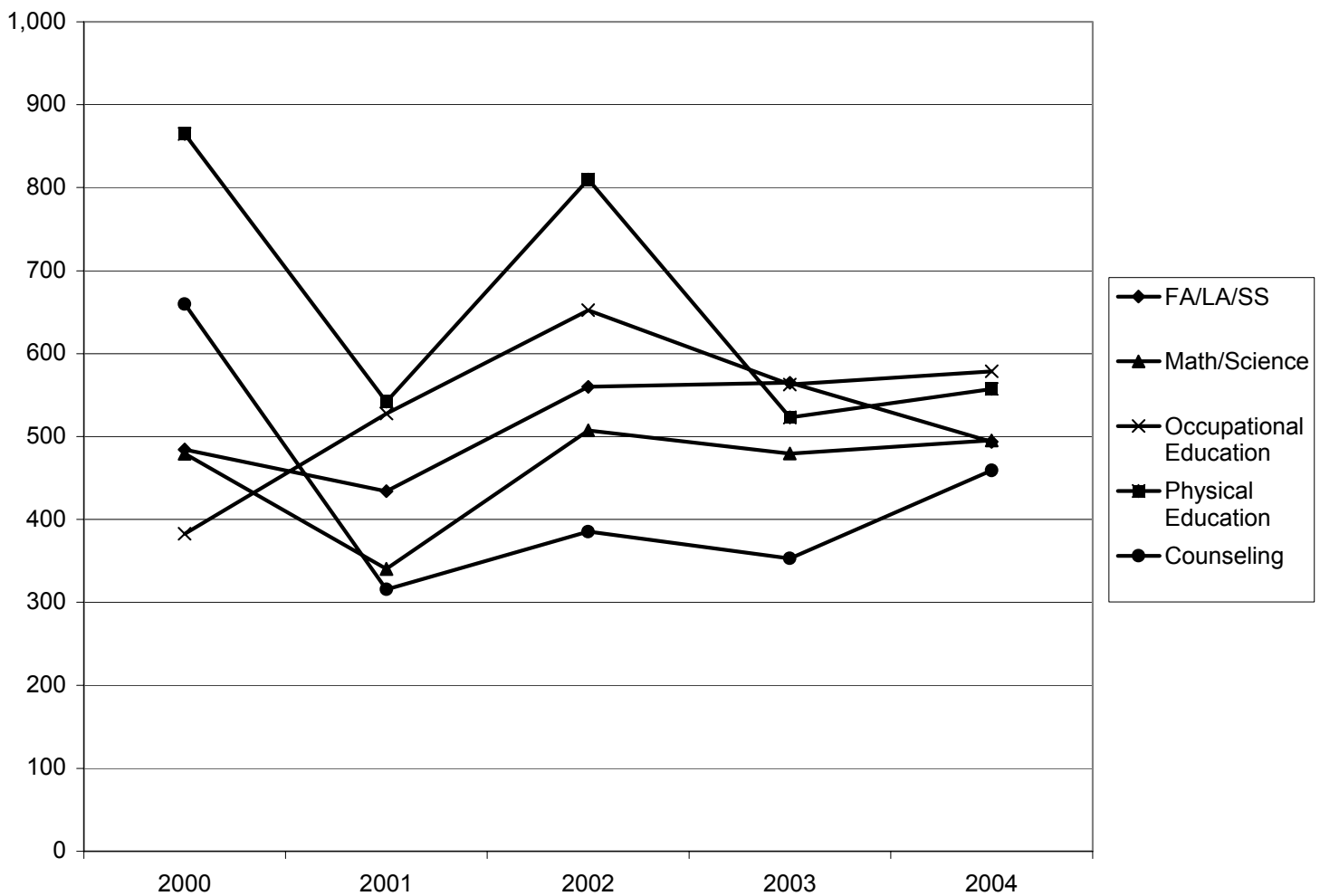
Efficiency generally reflects the course student to faculty ratio. It is

calculated by dividing the weekly student contact hours (WSCH) by the number of full-time equivalent faculty (FTEF). WSCH is the number of enrollments multiplied by the number of hours a course meets per week. An FTEF represents one faculty member with a full-time load. Higher ratios indicate more efficient courses. Note that efficiency ratios may be overestimated for some disciplines and divisions because FTEF is not specified for instructional faculty contracted for 35 hours per

week. Consequently, these data should be interpreted with caution.

As depicted in Table 1, the total efficiency ratio decreased from 437 in fall 2000 to a low of 388 in 2001 before increasing to a high of 527 in 2002. The efficiency ratio then decreased over the next two years to 474 in 2004, which is 8% higher than 2000. During this four-year period, the efficiency ratio for day course sections increased by 6%, while the ratio for evening sections improved by 13%.

**Graph 8. Fall Efficiency<sup>1</sup> by Year and Division**



<sup>1</sup> Efficiency = Weekly Student Contact Hours/Full-Time Equivalent Faculty. Full-Time Equivalent Faculty are not specified for instructional faculty contracted for 35 hours per week. As a result, efficiency totals may be overestimated for some disciplines and divisions.

Between 2000 and 2004, instructional divisions demonstrating an increase in efficiency included FA/LA/SS (2% increase), Math/Science (3% increase), and Occupational Education (35% increase), as shown in Graphs 8. Conversely, divisions whose efficiency ratios decreased during this time included PE (-36%) and Counseling (-30%).

**Revenue to Faculty Cost Ratio**

The revenue to faculty cost ratio is calculated by dividing the FTES revenue generated by the faculty salary and benefit costs. A ratio of 1.0 indicates that the revenue generated and faculty costs are equal. The proportion of course sections taught by full-time versus part-time faculty influences these ratios. Because full-time faculty costs are higher than

part-time faculty costs, courses using more full-time faculty will have lower ratios than courses employing more part-time faculty. Note that revenue to faculty cost ratios may be overestimated for some divisions because faculty costs are not specified for retired faculty and instructional faculty contracted for 35 hours per week. Consequently, these data should be interpreted with caution.

Table 1 shows that the total revenue to faculty cost ratio was lowest (2.1) in 2001 and 2004 and highest in 2002 (2.7). Between 2000 and 2004, the ratio decreased by 10% for day course sections, 15% for evening course sections, and by 4% for total course sections. The total revenue to faculty cost ratio decrease is less than both the day and evening

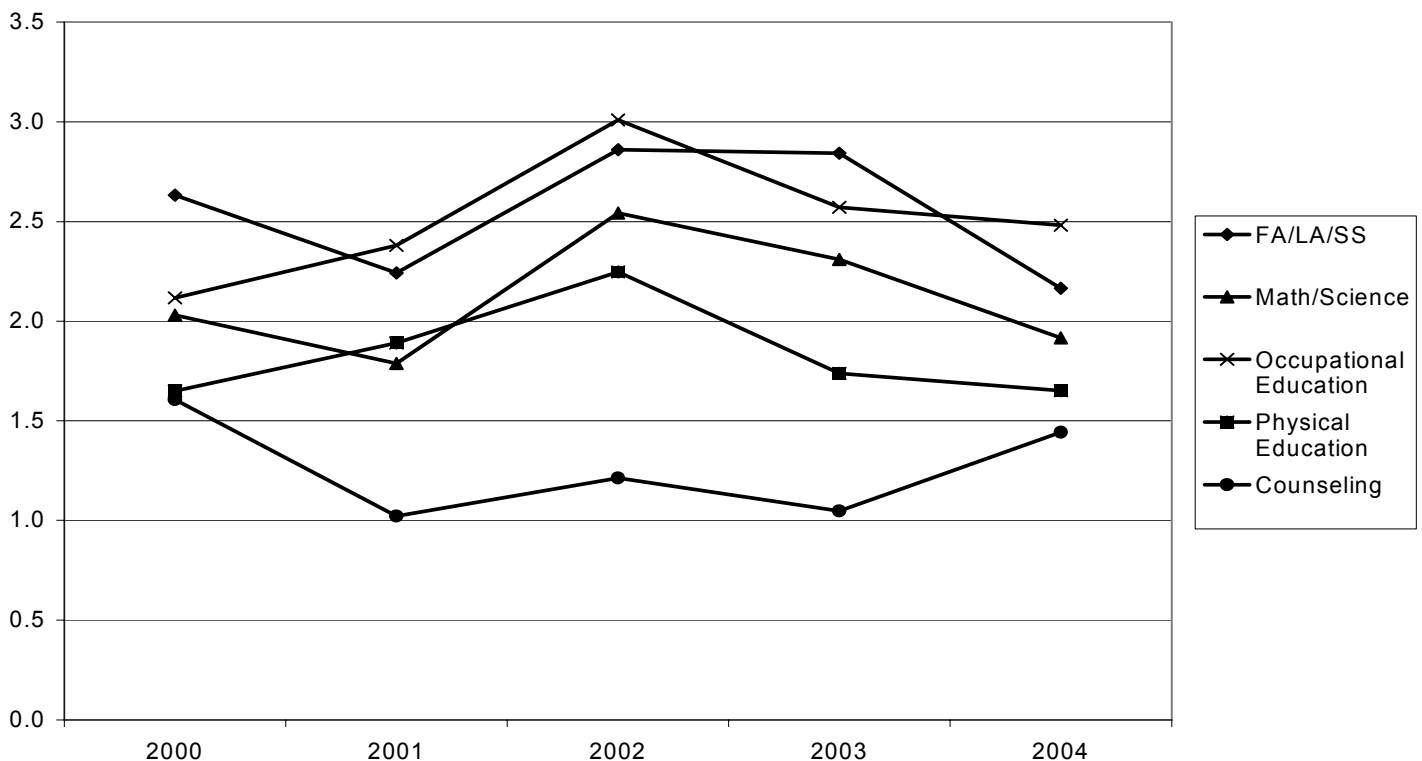
decreases because it incorporates course sections not included in either the day or evening totals, such as weekend and South Bay Regional Public Safety Consortium courses.

Between 2000 and 2004, the revenue to faculty cost ratio increased for the Occupational Education Division (17% increase), but decreased for FA/LA/SS (-18%), Math/Science (-6%), and Counseling (-10%), as depicted in Graph 9.

**High School Graduates Attending Hartnell College**

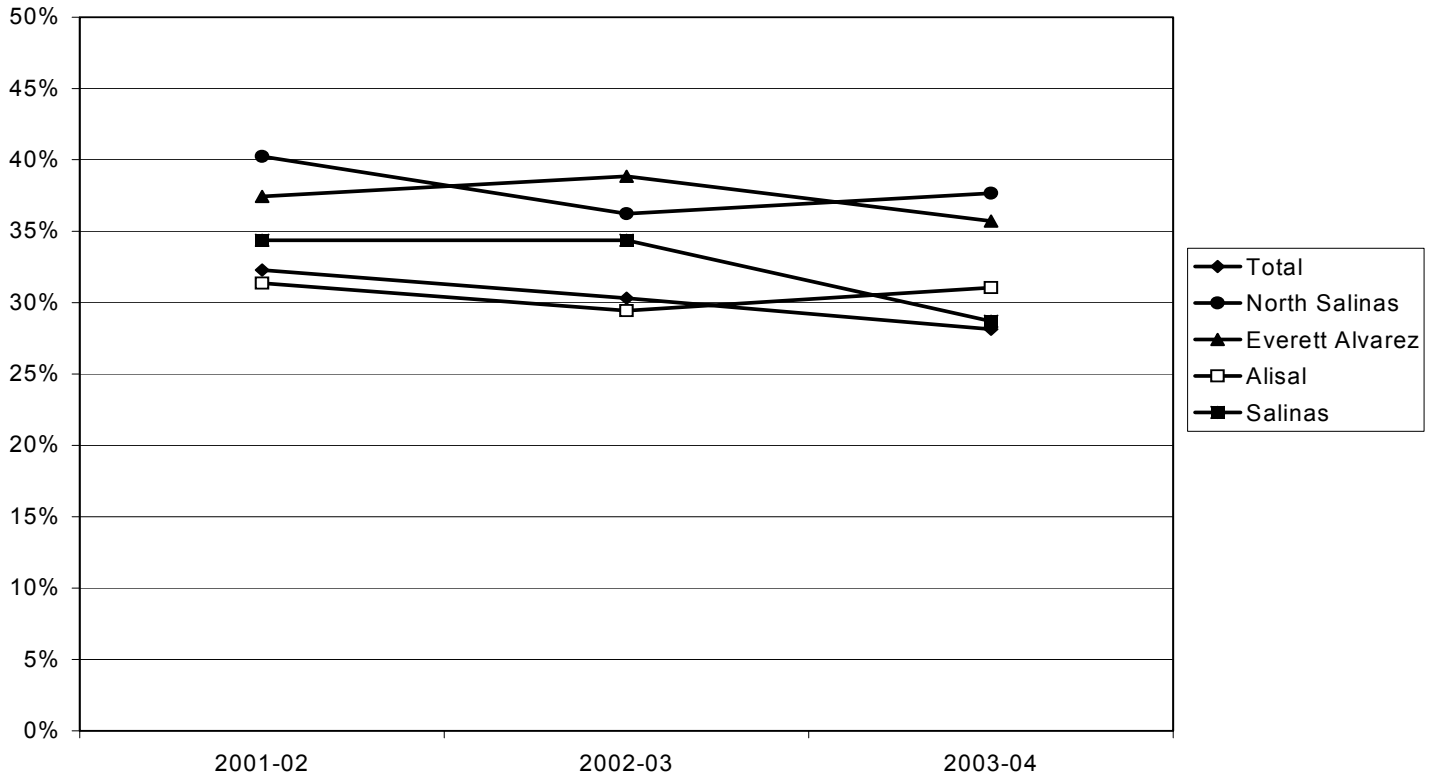
Graphs 10a-b depicts the proportion of recent graduates from major feeder high schools attending Hartnell College during the subsequent fall semester between 2001-02 and 2003-04. While the number

**Graph 9. Fall Revenue to Faculty Cost Ratio<sup>1</sup> by Year and Division**

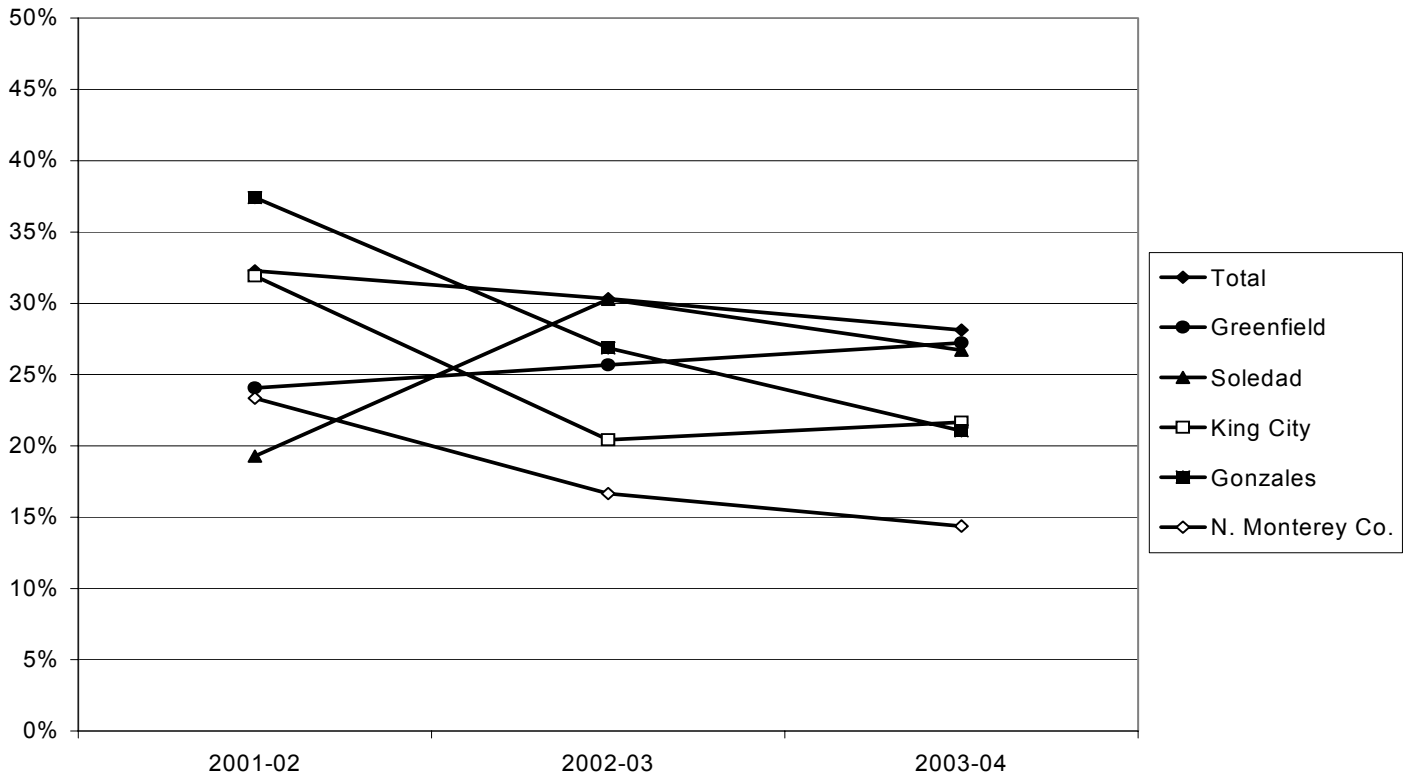


<sup>1</sup> Revenue to Faculty Cost Ratio = revenue / (faculty salary + benefits). Faculty costs are not included for retired faculty and instructional faculty contracted for 35 hours per week. As a result, revenue to faculty cost ratio may be overestimated for some disciplines and divisions.

**Graph 10a. Proportion of Major Feeder High School Graduates Attending Hartnell-Schools with Highest Percentage Attending**



**Graph 10b. Proportion of Major Feeder High School Graduates Attending Hartnell-Schools with Lowest Percentage Attending**



of high school graduates increased by 2% between 2001-02 and 2003-04, the number of graduates enrolling at Hartnell decreased by 11% during this period.

Decreases were seen at all high schools with the exception of Everett Alvarez, Greenfield, and Soledad, which had increases. In fall 2004, the proportion of recent high school graduates attending Hartnell ranged from 14% for North Monterey County High School to 38% for North Salinas High School.

### Summary and Conclusions

1. Because data are incomplete for some course sections used to calculate the efficiency ratio and revenue to faculty costs ratio, these indices should be interpreted with caution.
2. Enrollment and full-Time equivalent students (FTES) generally reflect the number of course sections offered. Enrollment, FTES, and number of

course sections: (1) decreased between 2000 and 2004; and (2) decreased more in day than evening sessions.

3. Enrollment per course section and course efficiency increased between 2000 and 2004.
4. Revenue to faculty cost ratios generally reflect the number of course sections offered. That is, the ratios are higher when more sections are offered because more, less costly part-time faculty are hired. Conversely, the ratios are lower when fewer sections are offered and fewer part-time faculty are hired.
5. Reducing the number of course sections offered has had both positive and negative impacts upon Hartnell College. On the positive side, efficiency has increased, resulting in lower course costs. On the other hand, enrollment and FTES declined, resulting in less revenue, and students

were offered fewer courses at less convenient times.

6. The decrease in the proportion of recent high school graduates attending Hartnell has also negatively impacted enrollment.
7. Student success indices (course retention and success rates) were highest in 2004.

### Recommendations

Results from this study support the following recommendations:

1. Continue to increase efficiency through increasing the number of students enrolled per section, where appropriate.
2. For high schools having a lower proportion of recent graduates attend Hartnell, including Gonzales, King City, North Monterey County, and Salinas, determine why this is occurring and develop a plan to increase enrollments.

**Research Brief** is a publication of the Institutional Research and Planning Office. More detailed information may be found in the **Indices of Student Enrollment and Success Summary Report**, which is available upon request. The report is also available on the web at: [www.hartnell.edu/irp/reports](http://www.hartnell.edu/irp/reports)

