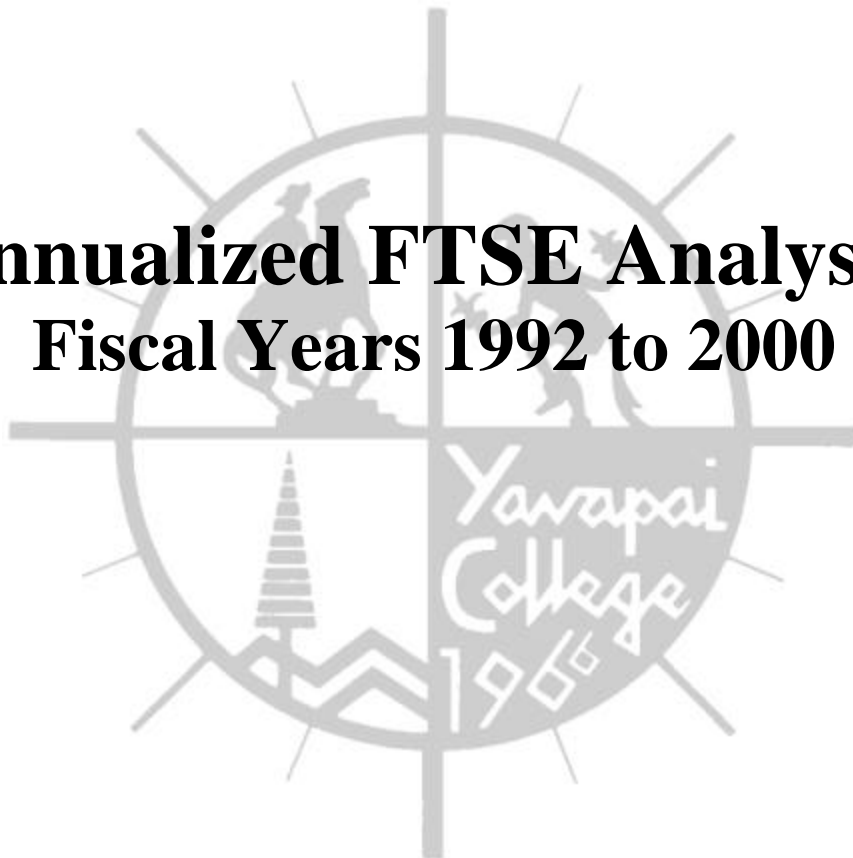




**Annualized FTSE Analysis:
Fiscal Years 1992 to 2000**

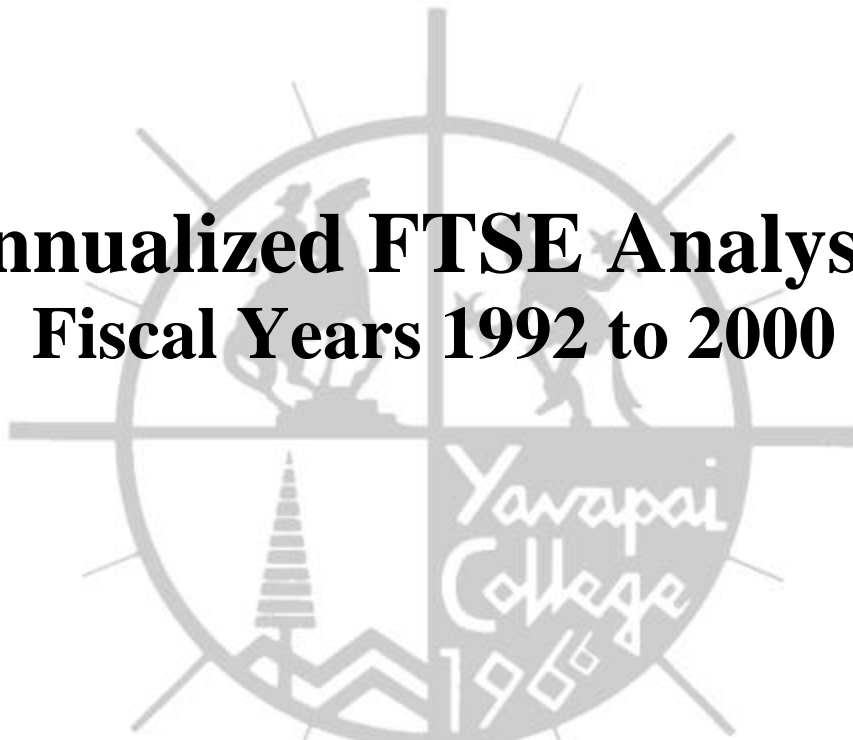


The Office of Institutional Planning,
Research, and Assessment

September 2001



Annualized FTSE Analysis: Fiscal Years 1992 to 2000



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EXECUTIVE SUMMARY

This study examines annual full-time student equivalency (FTSE) at Yavapai College from fiscal years 1992 to 2000. Trend analysis was conducted on total, short, open entry, summer, and adult basic education/general equivalency diploma FTSE. Trend analysis also was implemented so that differences between long-term trends and short-term fluctuations could be identified. Findings of this analysis are used to examine Yavapai College's future enrollment picture.

Summary Highlights:

Total

- ❖ Trend analysis indicates very strong, consistent growth in Annual FTSE over the past nine fiscal years, estimated growth 68 FTSE per year.
- ❖ Total FTSE has increased from 2,364 in 1992 to 2,936 in 2000, an increase of 24 percent.

Short Course

- ❖ Short course FTSE has exhibited very strong and consistent growth over the past nine fiscal years, estimated growth 27 FTSE per year.
- ❖ With one exception in fiscal year 1998, short course FTSE has grown every fiscal year for the past nine years.

Open Entry

- ❖ Trend analysis indicates a moderate, positive trend for open entry FTSE for the 1992-2000 period. (Estimated growth of 2.5 FTSE annually).
- ❖ Open Entry courses have shown much variability over the past nine fiscal years. The lowest FTSE was 42 in 1996, with the highest FTSE being 70 in 1999.

Summer

- ❖ Summer FTSE has exhibited a very strong and consistent upward trend, estimated at an annual growth of 15 FTSE.
- ❖ Summer FTSE has grown 88 percent over the past nine fiscal years from 123 in 1992 to 231 in 2000.

ABE/GED

- ❖ Between 1997 and 1999, ABE/GED FTSE showed little variation, with an average FTSE of 56. With only four years of data, trend analysis for forecasting was not possible.
- ❖ ABE/GED FTSE declined from 54 in 1999 to 46 in 2000, a decrease of 15 percent.

INTRODUCTION AND METHODS

Introduction

This analysis of Yavapai College's full-time student equivalency (FTSE) examines trends in total, short, open entry and summer enrollment for fiscal years 1992 to 2000¹. This study explores FTSE as it is reported to the Arizona State Board of Community Colleges. Lastly, implications for future FTSE enrollment are considered.

Methods

FTSE figures were recreated using the same program logic that calculates the official state FTSE figures. However, the FTSE figures produced for this report may differ slightly from the official figures submitted to the Arizona State Board of Community Colleges because data elements have changed or been updated since the official FTSE figures were calculated. The reconstructed figures match the official figures within one percent or less for each of the years studied. Reconstruction of the data was necessary so that FTSE data could be explored in more detail and trend analysis conducted.

Listed below is the step-by-step process used in calculating official FTSE:

- Fall and spring regular courses:
 - a. Fall FTSE as of 45th day of instruction (excluding short and open entry)
 - b. Spring FTSE as of 45th day of instruction (excluding short and open entry)
 - c. Add (a) and (b)
 - d. Divide (c) by 2 = FTSE

- Short, open entry and summer are calculated as follows: (Calculated on July 1)
 - a. Total credit hours enrolled
 - b. Total credit hours completed
 - c. Add amounts in (a) and (b)
 - d. Divide number in (c) by 2
 - e. Divide number in (d) by 30 = FTSE

- Adult basic education/ general equivalency diploma:
 - a. Total clock hours attended for completers only
 - b. Divide by 640 contact hours = FTSE

- Annualized FTSE
 - a. Add all above FTSE totals = annualized FTSE

¹ For purposes of trend analysis this study begins with data from fiscal year 1992. Prior to 1992, Yavapai College provided services in Coconino County.

Analysis

A clear understanding of enrollment data requires distinguishing between short-term fluctuations and long-term trends. This is important for two reasons:

- Factors influencing short-term fluctuations and long-term trends are often different.
- It is important to identify if recent changes are only short-term fluctuations or if they signal a change in a long-term trend.

To distinguish between short-term fluctuations and long-term trends, linear regression and correlation analysis were utilized.

Interpreting Trend Analysis

Using linear regression for trend analysis, the correlation coefficient “ r ” is a measure used to distinguish between long-term trends and short-term fluctuations. A coefficient of +1 or -1 would mean that all of the variation would be due to the trend, and none attributed to short-term fluctuations. Additionally, a +1 means that higher values of one variable are exactly associated with higher values of another variable. Likewise, a -1 indicates that higher values of one variable are exactly associated with the lower values of another variable. A coefficient of zero would indicate that all of the variation would be due to fluctuations and none to the trend. The nearer the coefficient is to +1 or -1, the more important the trend is in comparison with the fluctuations, and the more consistent the trend over time.

ANNUALIZED FTSE ENROLLMENT TREND ANALYSIS

Table 1 provides nine years of annual FTSE figures for total, short, open entry, summer and adult basic education/general equivalency diploma courses. Nine-year number and percent change are included.

Throughout the study Figures are used to visually present trend analysis results.

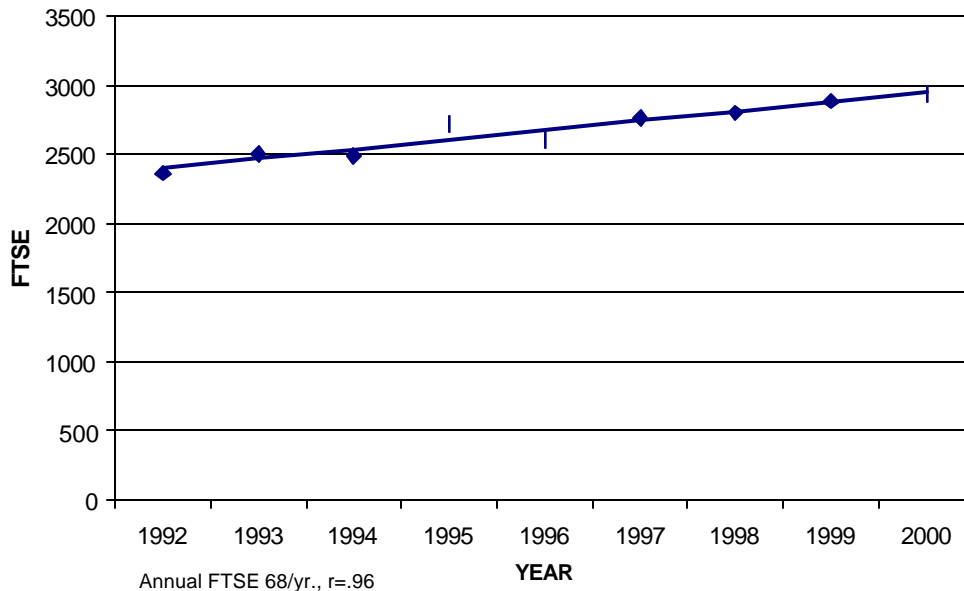
TABLE 1. ANNUALIZED FTSE ENROLLMENT, FISCAL YEARS 1992 TO 2000											
	Fiscal Year									9 Yr # Change	9 Yr % Change
	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01		
Annual	2364	2501	2490	2717	2608	2762	2801	2885	2936	572	24%
Short	61	82	86	90	125	147	145	257	291	230	377%
OE/OE	59	47	46	44	42	67	69	70	62	3	5%
Summer	123	104	118	159	173	175	190	206	231	108	88%
ABE/GED*	na	na	na	na	na	57	57	54	46	-11	-19%

*na = not applicable

Total FTSE Enrollment

The total annual FTSE figure is used by the state of Arizona to determine Yavapai College's state appropriated funding. Annual FTSE is derived by averaging the fall and spring FTSE for regular courses as of the 45th day of instruction, then adding FTSE from short, summer and open entry courses.

**FIGURE 1. ANNUAL FTSE TRENDS:
FISCAL YEARS 1992 TO 2000**



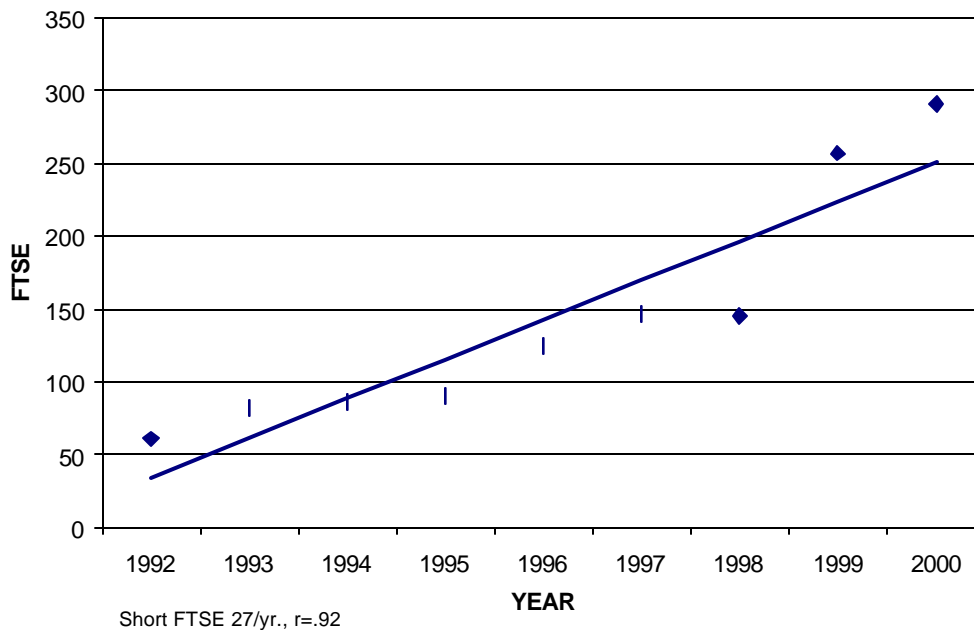
Trend Analysis Results

- Trend analysis indicates very strong, consistent growth in annual FTSE over the past nine fiscal years, estimated growth 68 FTSE per year.
- Total FTSE has increased from 2,364 in 1992 to 2,936 in 2000, an increase of 24 percent.
- Fiscal year 2000 FTSE of 2,936 represents Yavapai College's highest annual FTSE and the fourth consecutive annual increase. However, without the addition of for-credit elder hostel enrollment, fiscal years 1999 and 2000 FTSE would have been 2,770 for both years.

Short Courses

Short courses are those that take place in the fall or spring, last less than 15 weeks and start after the 45th day of instruction, but finish at the end of the current semester.

**FIGURE 2. SHORT COURSE FTSE TRENDS:
FISCAL YEARS 1992 TO 2000**



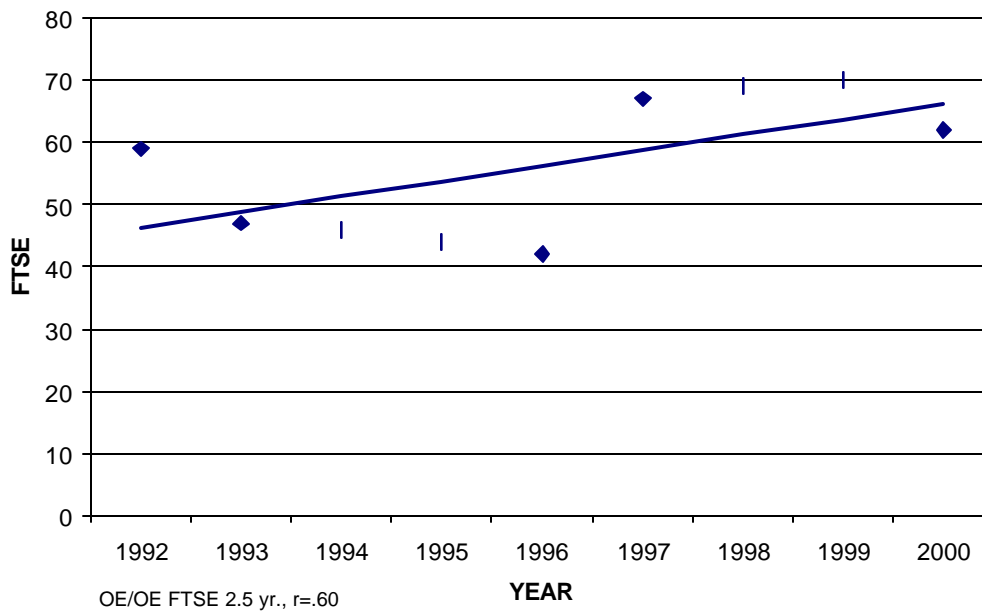
Trend Analysis Results

- Short course FTSE has exhibited very strong and consistent growth over the past nine fiscal years.
- Over the past nine fiscal years short course FTSE has grown from 61 in 1992 to 291 in 2000, an increase of 377 percent. The large increases in fiscal years 1999 and 2000 are due to the addition of for-credit elder hostel enrollment. Subtracting out elder hostel enrollments, FTSE has still grown 169 percent from 61 to 164 over the past nine fiscal years.
- With one exception in fiscal year 1998, short course FTSE has grown every fiscal year for the past nine years.

Open Entry Courses

Open entry courses are designed to allow students to begin a course any time between the first day of regular instruction and the middle of November (fall) or April (spring). Completion of an open entry course depends on the specific course and the student. Students may work at their own pace with respect to the courses closing date, which in some cases is as long as one year or as short as the end of the current semester.

**FIGURE 3. OPEN ENTRY FTSE TRENDS:
FISCAL YEARS 1992 TO 2000**



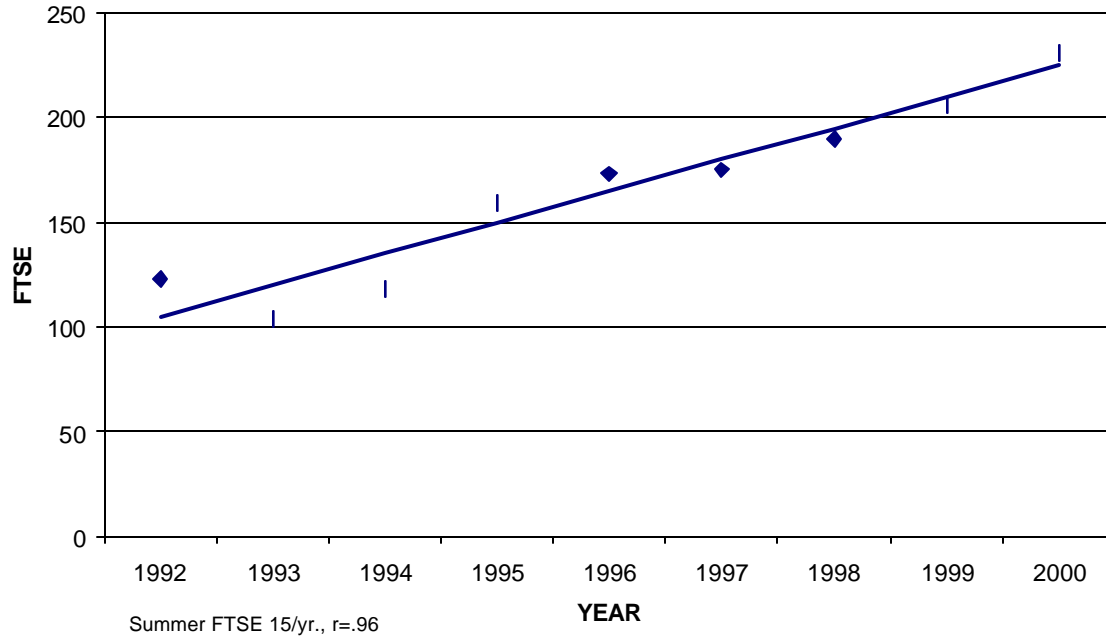
Trend Analysis Results

- Trend analysis indicates a moderate, positive trend for open entry FTSE for the 1992-2000 period. (Estimated growth of 2.5 FTSE annually).
- Open Entry courses have shown much variability over the past nine fiscal years. The lowest FTSE was 42 in 1996, with the highest FTSE being 70 in 1999.

Summer Course FTSE

Yavapai College's summer school traditionally occurs between May and August. Summer sessions run either five or eight weeks depending on the course.

**FIGURE 4. SUMMER FTSE TRENDS:
FISCAL YEARS 1992 TO 2000**



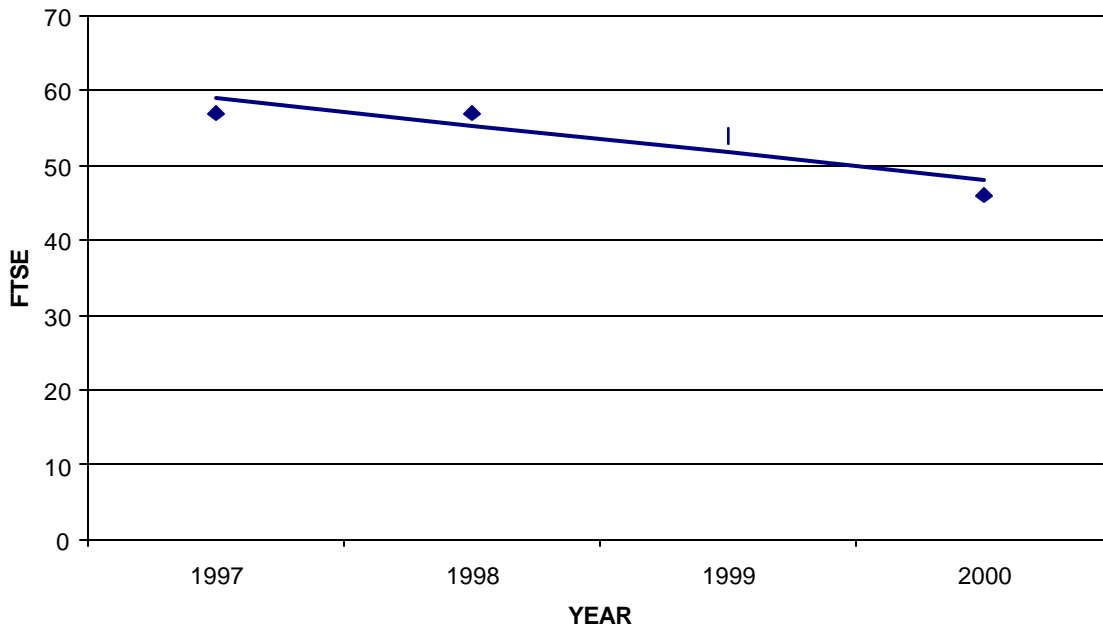
Trend Analysis Results

- Summer FTSE has exhibited a very strong and consistent upward trend, estimated at an annual growth of 15 FTSE.
- Summer FTSE has grown 88 percent over the past nine fiscal years from 123 in 1992 to 231 in 2000.
- Summer FTSE has increased eight out of the past nine fiscal years, with FTSE increasing 25 (12%) between 1999 and 2000.

Adult Basic Education and General Equivalency Diploma Courses

Adult Basic Education (ABE) courses are designed to provide students with basic writing, reading and mathematics skills. General Equivalency Diploma (GED) courses are designed to help prepare students to pass the GED exam. ABE/GED course work began generating FTSE in 1997. With only four years of data, trend analysis is not reliable for forecasting.

**FIGURE 5. ABE/GED FTSE TRENDS:
FISCAL YEARS 1992 TO 2000**



Trend Analysis Results

- ABE/GED FTSE declined from 54 in 1999 to 46 in 2000, a decrease of 15 percent.
- Between 1997 and 1999, ABE/GED FTSE showed little variation, with an average FTSE of 56.
- Figure 5 suggests that ABE/GED FTSE is exhibiting a downward trend; however, without additional years of data it is difficult to determine if the downward slope is due to a true trend or simply a result of short-term fluctuations.

EXPECTATIONS FOR FUTURE ENROLLMENT

Statistical analysis on annualized FTSE enrollment for fiscal years 1992 to 2000 show that Yavapai College has experienced very strong and consistent growth over the past nine years. The strong trends identified suggest a positive FTSE forecast for fiscal year 2001.

Total FTSE has grown each year during the fiscal years 1992 to 2000. Much of the growth for 1999 and 2000 can be attributed to the addition of for-credit elder hostel. However, trend analysis controlling for elder hostel FTSE still indicates very strong, consistent and positive growth for Yavapai College.

Short course FTSE has grown tremendously over the past nine fiscal years. Again, elder hostel enrollments are responsible for the large increases seen in 1999 and 2000. But analysis controlling for elder hostel FTSE continues to show a consistent and very strong upward trend for short course enrollment.

Trend analysis shows a moderate growth trend for open entry course FTSE; however, the magnitude of FTSE generated is only forecasted to be 2.5 additional FTSE per year. The past four fiscal years have been much stronger and shown less variability compared to the 1992-1996 period.

Summer course FTSE experienced 88 percent growth over the past nine fiscal years, and trend analysis suggests that this positive trend should continue. Trend analysis indicates summer FTSE will increase by 15 annually.

Due to the fact that ABE/GED courses only began generating FTSE in fiscal year 1997, there is not sufficient data to forecast a trend. Fiscal years 1997 through 1999 showed little variation in FTSE, but 2000 FTSE decreased 15 percent from its 1999 level.

Trend analysis is based on past data; therefore, any forecast is valid only to the extent that the factors influencing FTSE remain relatively stable. Significant changes in marketing efforts or new program development, for instance, could weaken the validity of a model based on past data.

In conclusion, the long-term perspective taken in this study indicates overall strong FTSE growth. Trend analysis shows consistent and strong growth in all of the following course formats: short, open entry, and summer. Results of this time-series analysis in combination with the bond passage and implementation of the Master Plan indicate a strong and growing future for Yavapai College.