



“Well, I already knew that”: Can you go beyond the quantitative findings on admissions available graduation rate variables?

***Based on Graduation Rates of
First-Time Full-Time Freshmen and Full-/Part-time Transfer Students***

November 18, 2010

Sunny Moon (hmoon@fullerton.edu)
James Hershey (jrhershey@fullerton.edu)
Ed Sullivan (esullivan@fullerton.edu)

Institutional Research and Analytical Studies
California State University, Fullerton

Improving Graduation Rates as a National Priority

- ▶ **President Obama at the University of Texas, Austin** (August 9, 2010)
 - “In a single generation, we've fallen from first place to **12th** place in college graduation rates for young adults.”
 - “...raise the nation's college graduation rate to 60% in just 10 years, adding at least 8 million graduates, ...”

(Source: ABC News, Aug, 2010 - <http://abcnews.go.com/WN/president-barack-obama-outlines-college-education-goal-university/story?id=11359759>)

▶ **Percentage of 25-34 Year Olds with a College Degree, 2007**

Canada	55.8%	Israel	41.5%
Korea	55.5%	France	41.4%
Russian Federation	55.5%	Belgium	41.3%
Japan	53.7%	Australia	40.7%
New Zealand	47.3%	United States	40.4%
Ireland	43.9%	Denmark	40.1%
Norway	42.7%		

(Source: Organization for Economic and Co-operative Development, 2009, Courtesy of The College Board)

Graduation Rates at CSU Fullerton

- ▶ ***We have been formally measuring and working to improve graduation rates using data for cohorts dating back almost three decades***

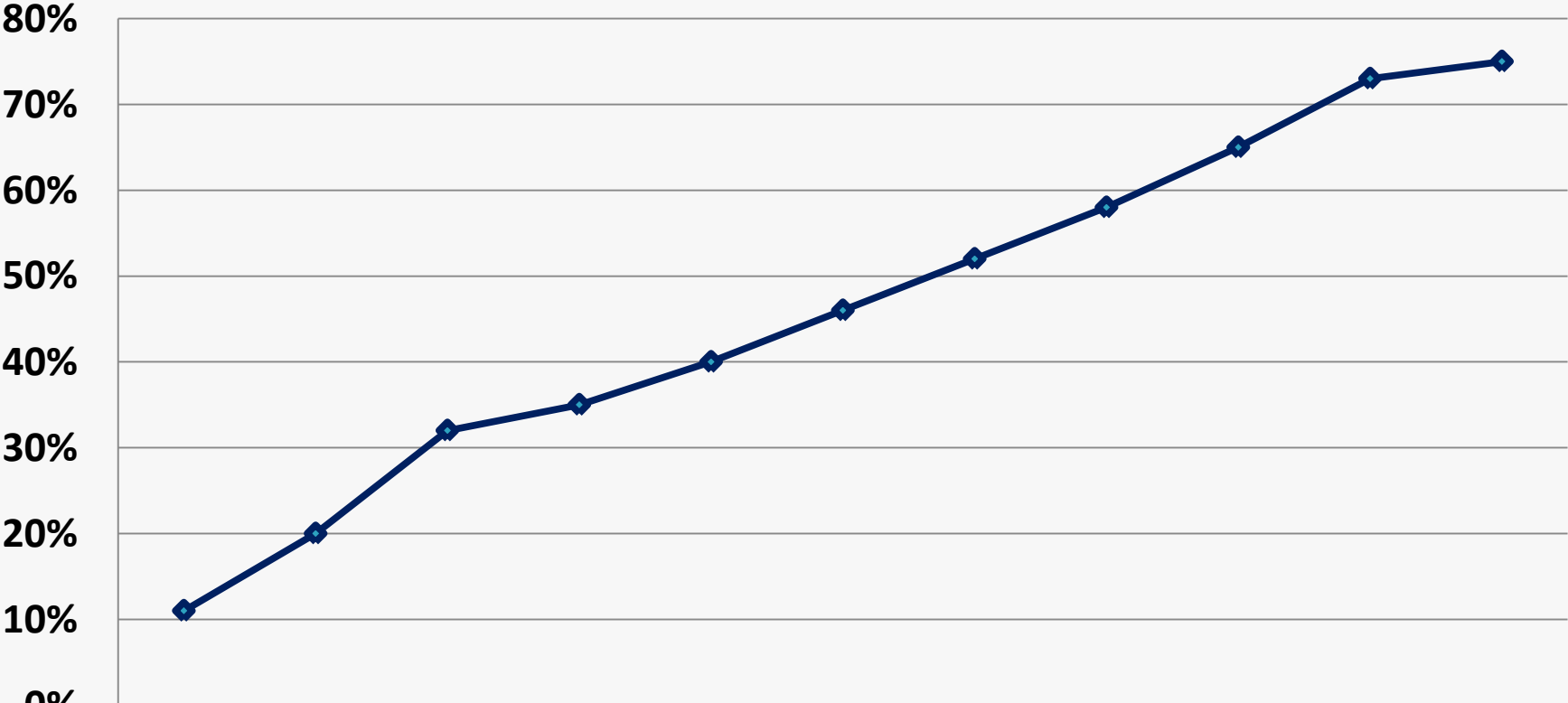
- ▶ **New Requirements in WASC Institutional Review Process (2008)**
 - **For CPR (Capacity & Preparatory Review)**
 - A study and analysis of student success, drawing from, but not limited to, [the institution's] data on retention and graduation rates, disaggregated by student type and by program.

 - **For EER (Educational Effectiveness Review)**
 - Further development of student success efforts. Based on the findings of the institution and the team at the CPR review, the institution will be expected to further its analysis of student success, deepening its analysis of its own and comparative data on graduation and retention rates, year-to-year attrition, campus climate surveys, etc.

Six-Year Graduation Rates by Student Characteristics

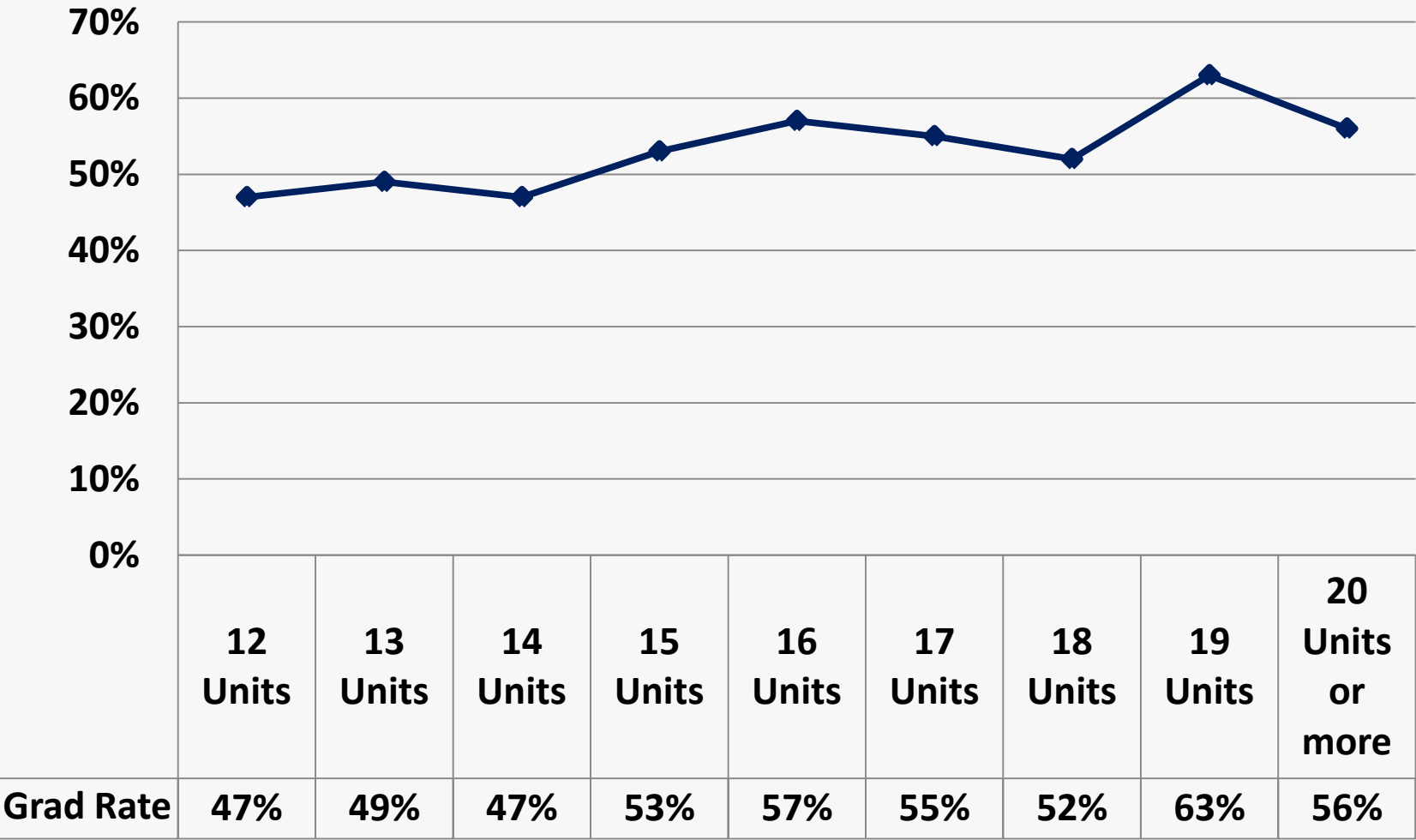
- ▶ Data that we looked at:
 - Six-year graduation rates of FTF students from fall 1998 through fall 2002 cohorts
 - 13,412 FTF students entered
 - 6,589 (49.1%) graduated in six years or less

6-Yr Grad Rate by HS GPA

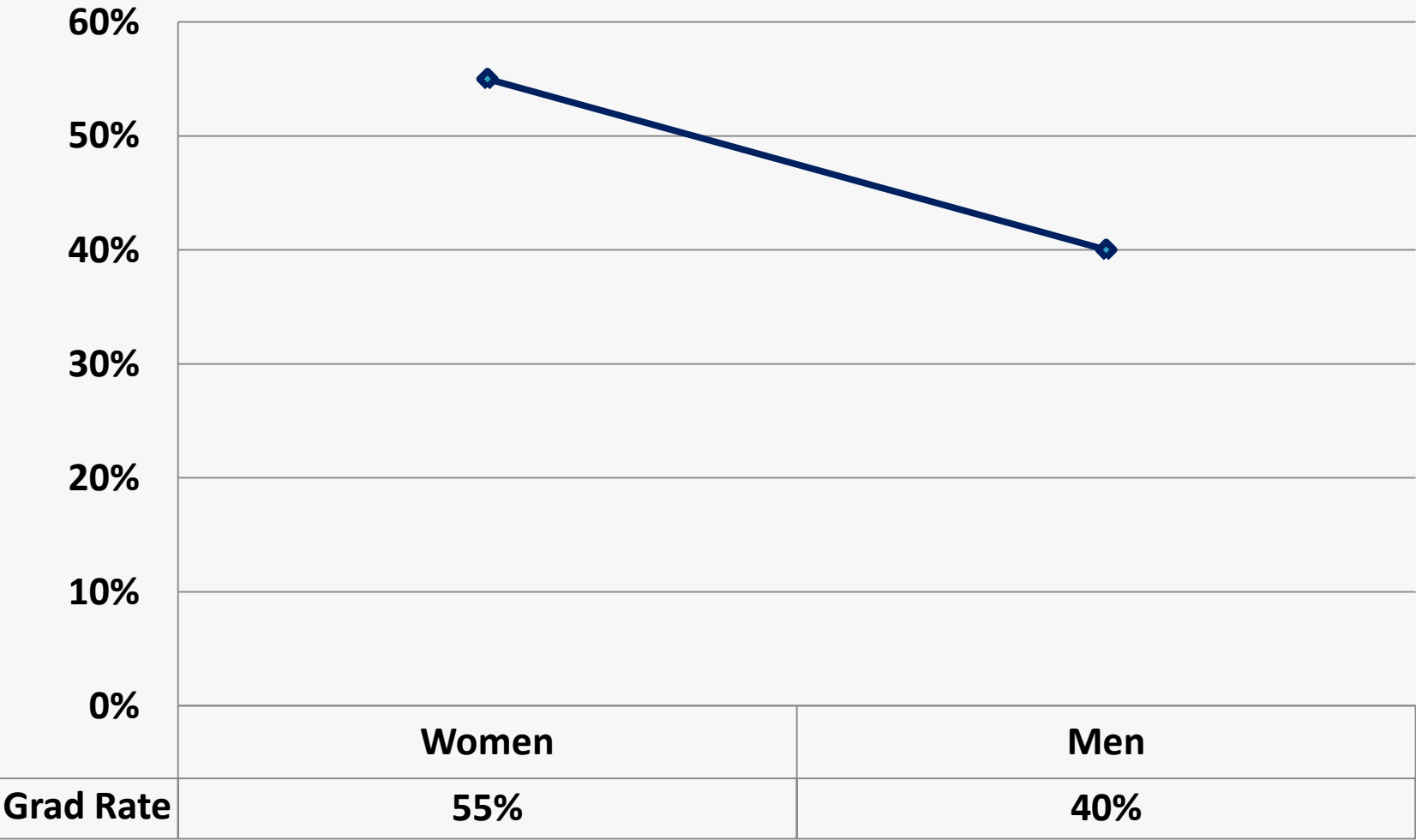


	2.00 to 2.19	2.20 to 2.39	2.40 to 2.59	2.60 to 2.79	2.80 to 2.99	3.00 to 3.19	3.20 to 3.39	3.40 to 3.59	3.60 to 3.79	3.80 to 3.99	>= 4.00
Grad Rate	11%	20%	32%	35%	40%	46%	52%	58%	65%	73%	75%

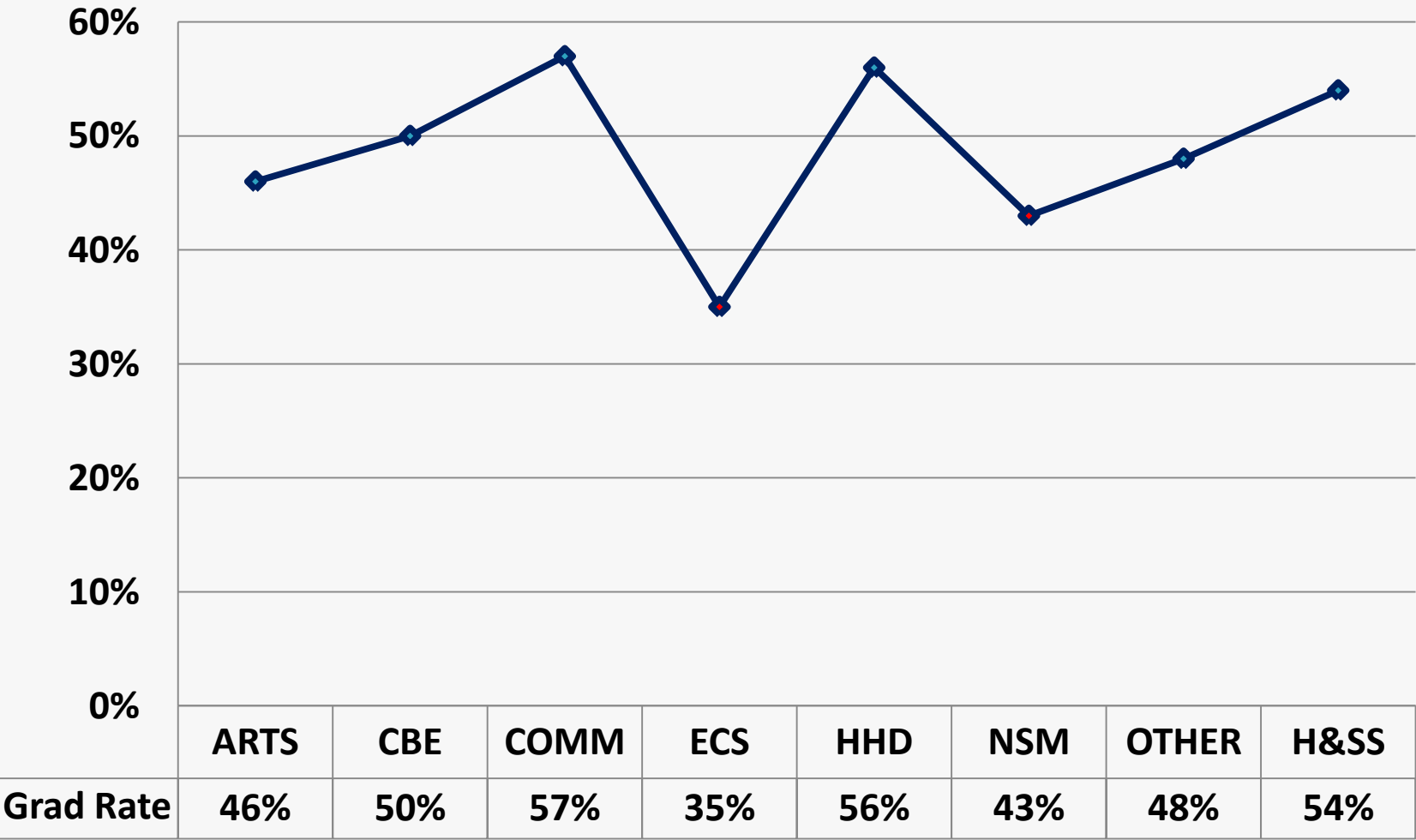
6-Yr Grad Rate by 1st Term Units



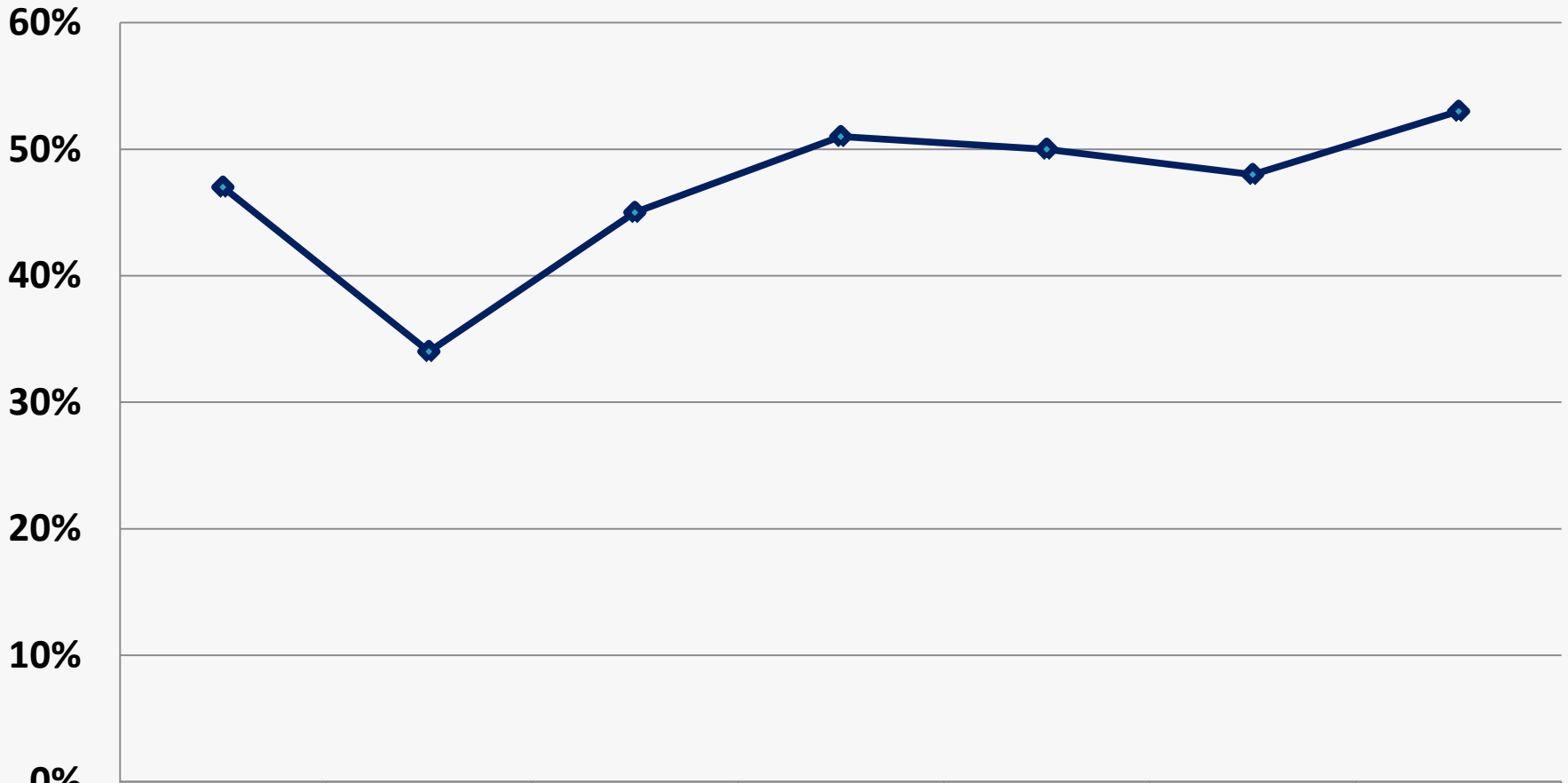
6-Yr Grad Rate by Gender



6-Yr Grad Rate by Major (College) at Entry

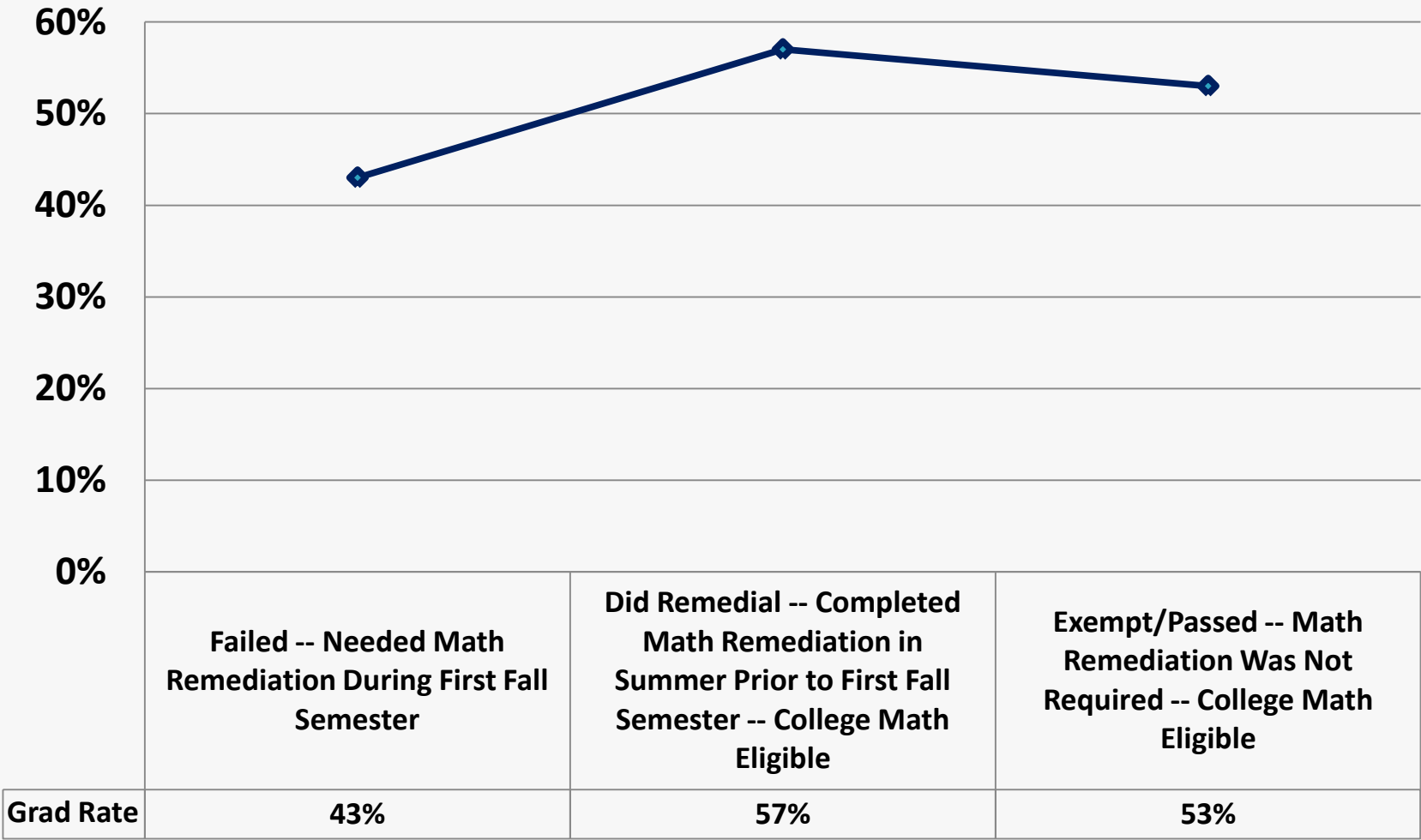


6-Yr Grad Rate by Ethnicity

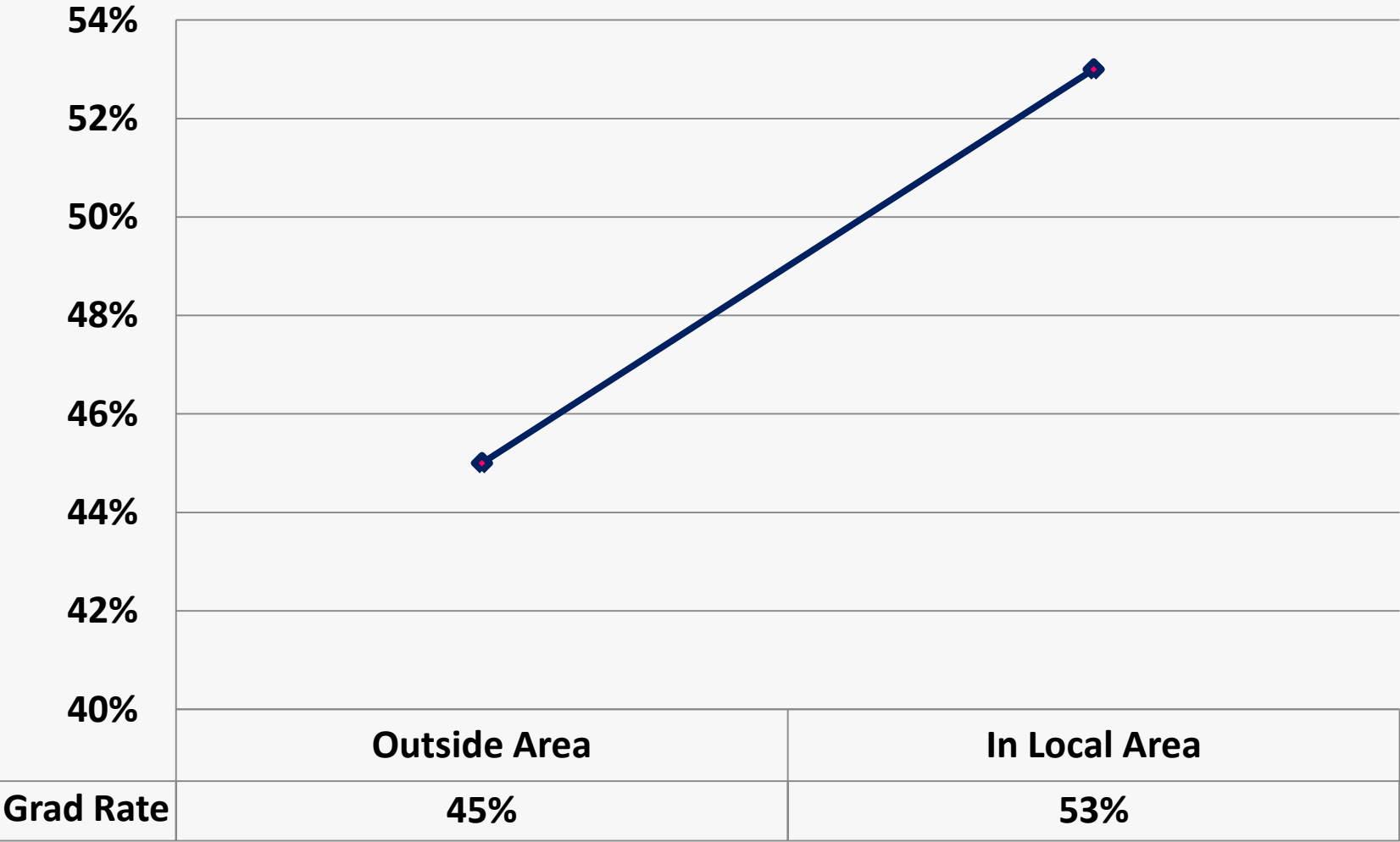


	AM IND	BLACK	HISPANIC	ASIAN	UNKN	NON RES	WHITE
Grad Rate	47%	34%	45%	51%	50%	48%	53%

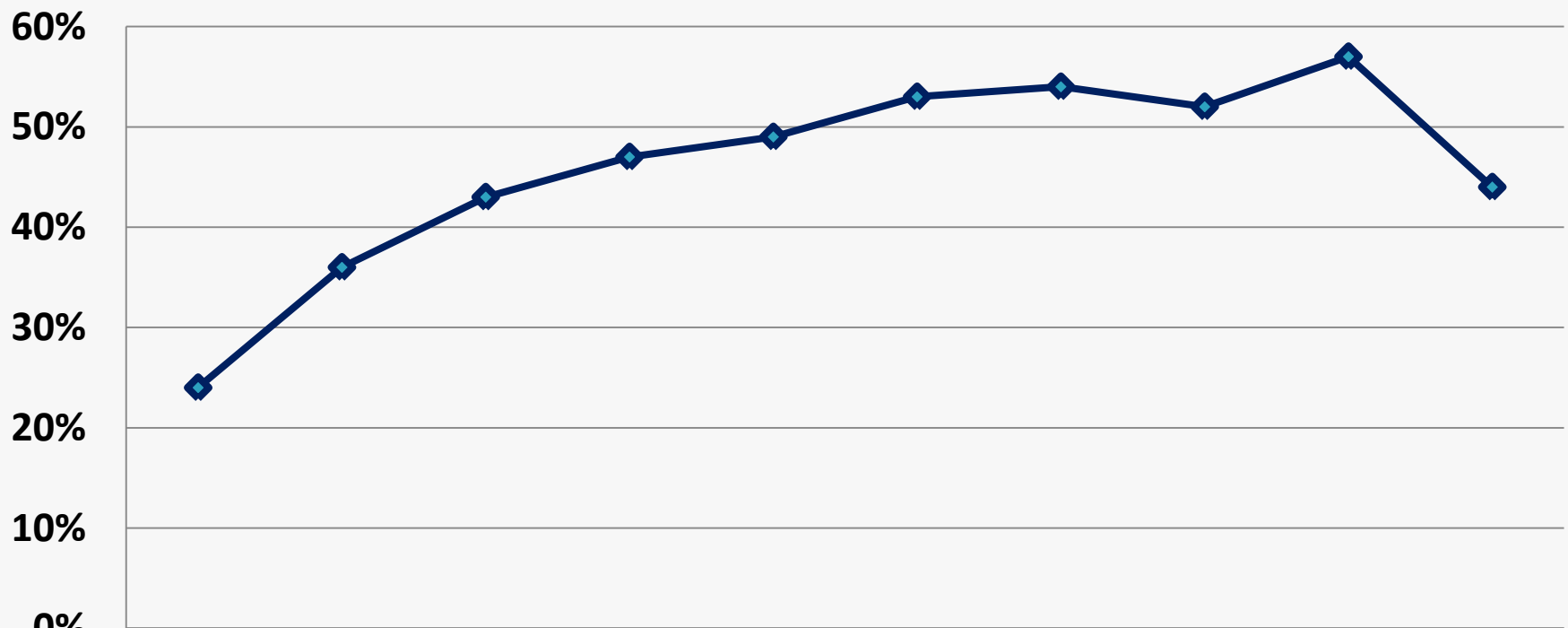
6-Yr Grad Rate by Entry Level Math Status



6-Yr Grad Rate by Admissions Area

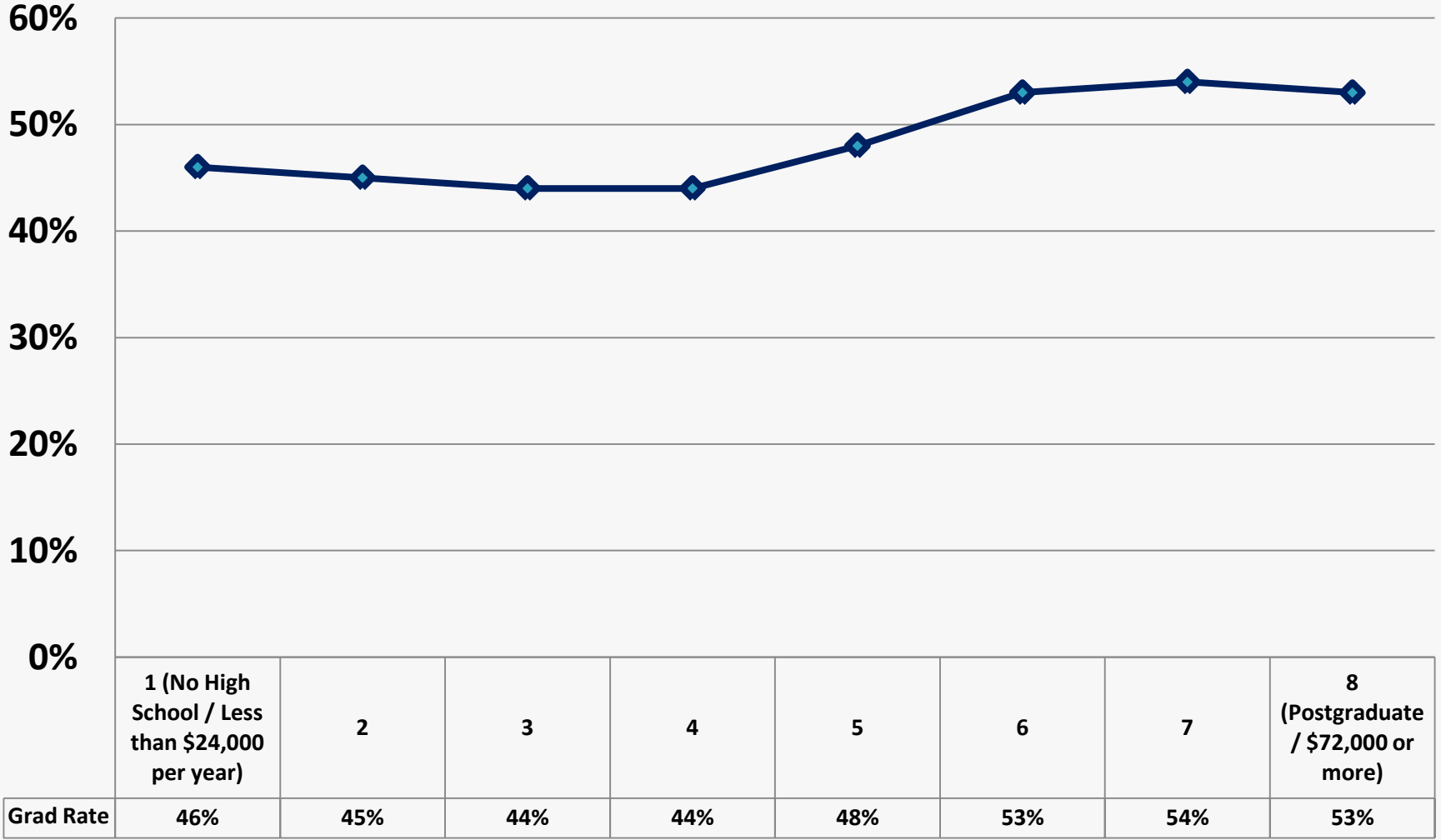


6-Yr Grad Rate by SAT (Math + Critical Reading)



	501 thru 600	601 thru 700	701 thru 800	801 thru 900	901 thru 1000	1001 thru 1100	1101 thru 1200	1201 thru 1300	1301 thru 1400	1401 thru 1600
Grad Rate	24%	36%	43%	47%	49%	53%	54%	52%	57%	44%

6-Yr Grad Rate by Socio-Economic Status



Predictive Model of 6-Year Grad Rate

▶ Logistic Regression

- Dependent Variable
 - 6-year Grad (Yes vs. No)
- Independent Variable
 - Dichotomous : Gender, Admissions Area
 - Categorical: Ethnicity, ELM (Entry Level Math), SAT, SES, College of Major at Entry
 - Continuous: Units in 1st Term, High School GPA

▶ Results Available At:

http://www.fullerton.edu/analyticalstudies/degrees_grad/graduation_rates/ftfgradRateStudy.pdf

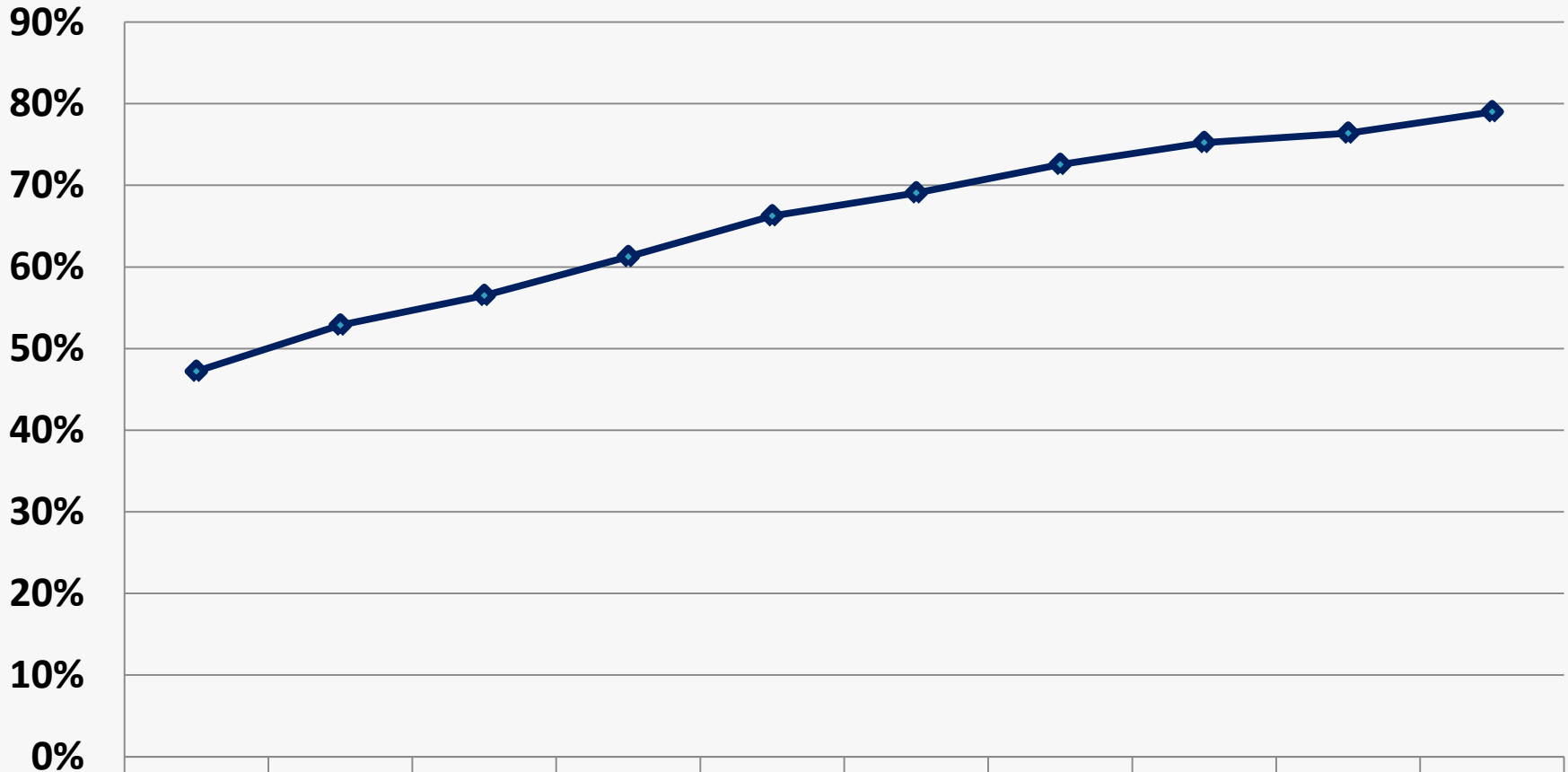
Summary of Analysis Results

- ▶ **Predictors of 6-year Graduation (First-time Full-time)**
 - HS GPA > gender > major > admissions area > ELM > SES > SAT > Ethnicity > Units taken in 1st Term
 - Pseudo R square: – measure strength of association
 - Nagelkerke R^2 : 14%
 - Classification Accuracy Rate
 - 64% of graduated vs. non-graduated is correctly predicted by model
 - (Proportional by chance accuracy was 50%)

Four-Year Graduation Rates by Student Characteristics

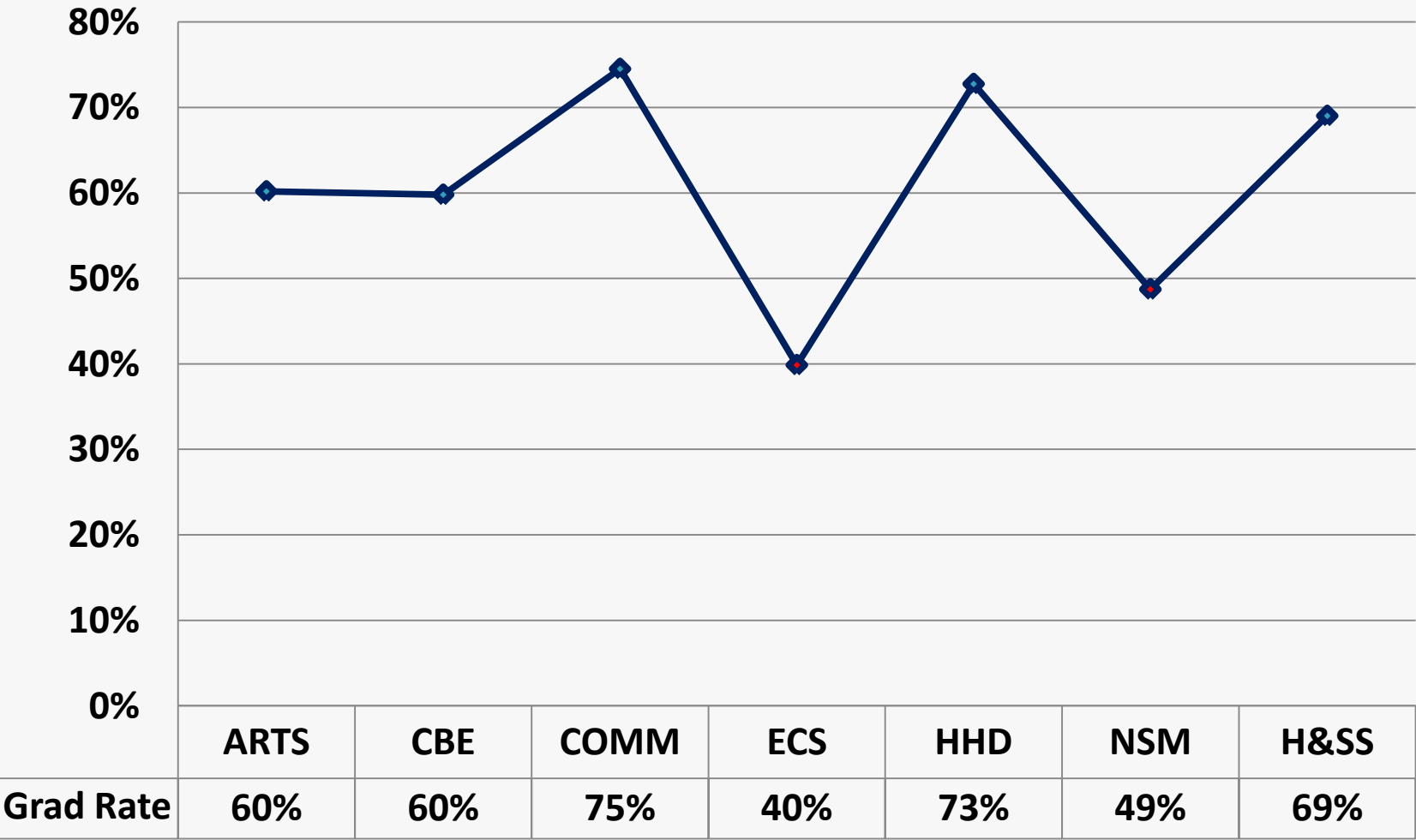
- ▶ Data that we looked at:
 - Four-year graduation rates for transfer students to CSUF were analyzed for cohorts starting from fall 1998 through fall 2004 (including spring semesters).
 - 33,839 transfer students entered
 - 21,778 (64%) graduated in four years or less

4-Yr Grad Rate by Transfer GPA

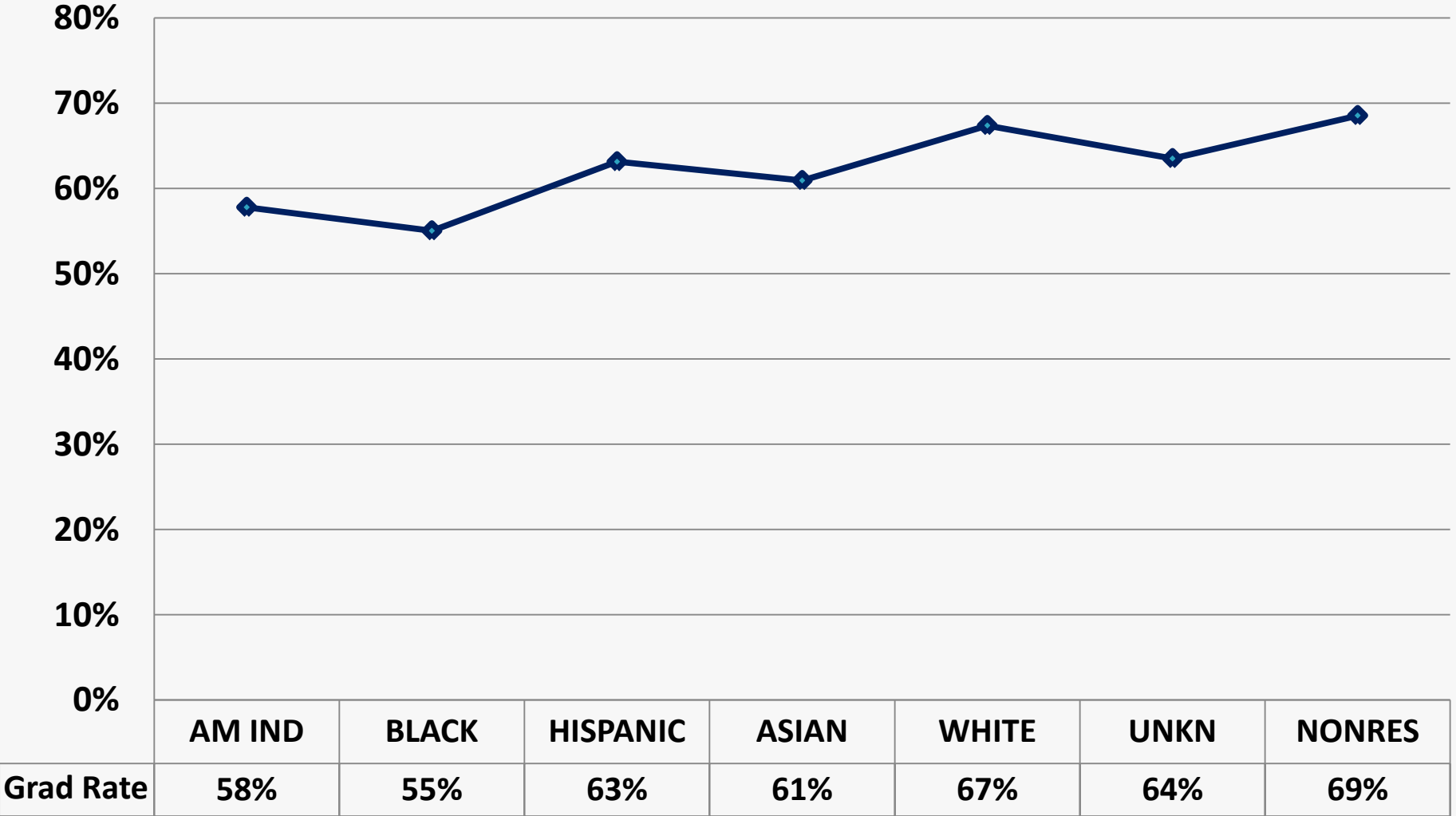


	2.00 to 2.19	2.20 to 2.39	2.40 to 2.59	2.60 to 2.79	2.80 to 2.99	3.00 to 3.19	3.20 to 3.39	3.40 to 3.59	3.60 to 3.79	3.80 to 4.00
Grad Rate	47%	53%	56%	61%	66%	69%	73%	75%	76%	79%

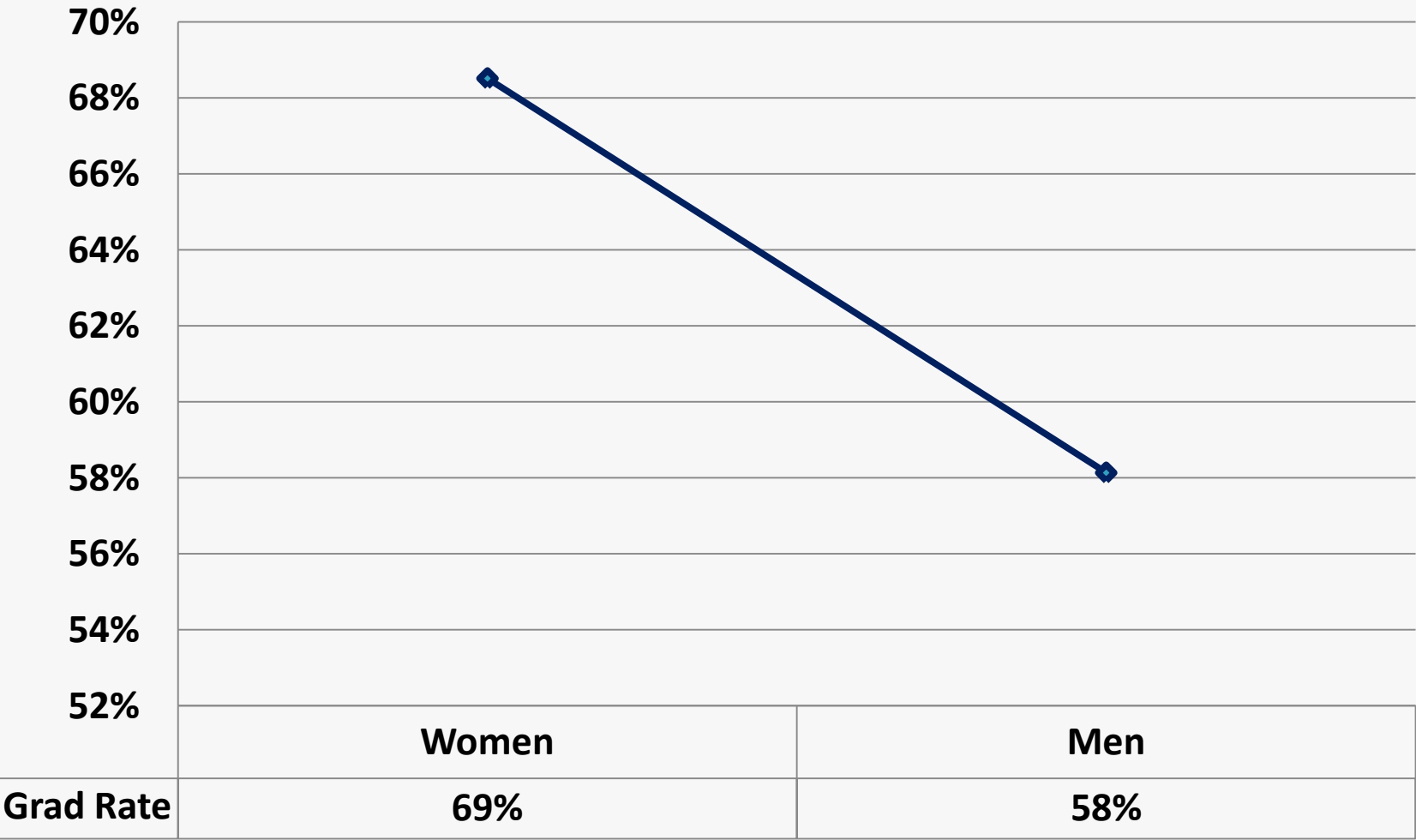
4-Yr Grad Rate by Major (College) at Entry



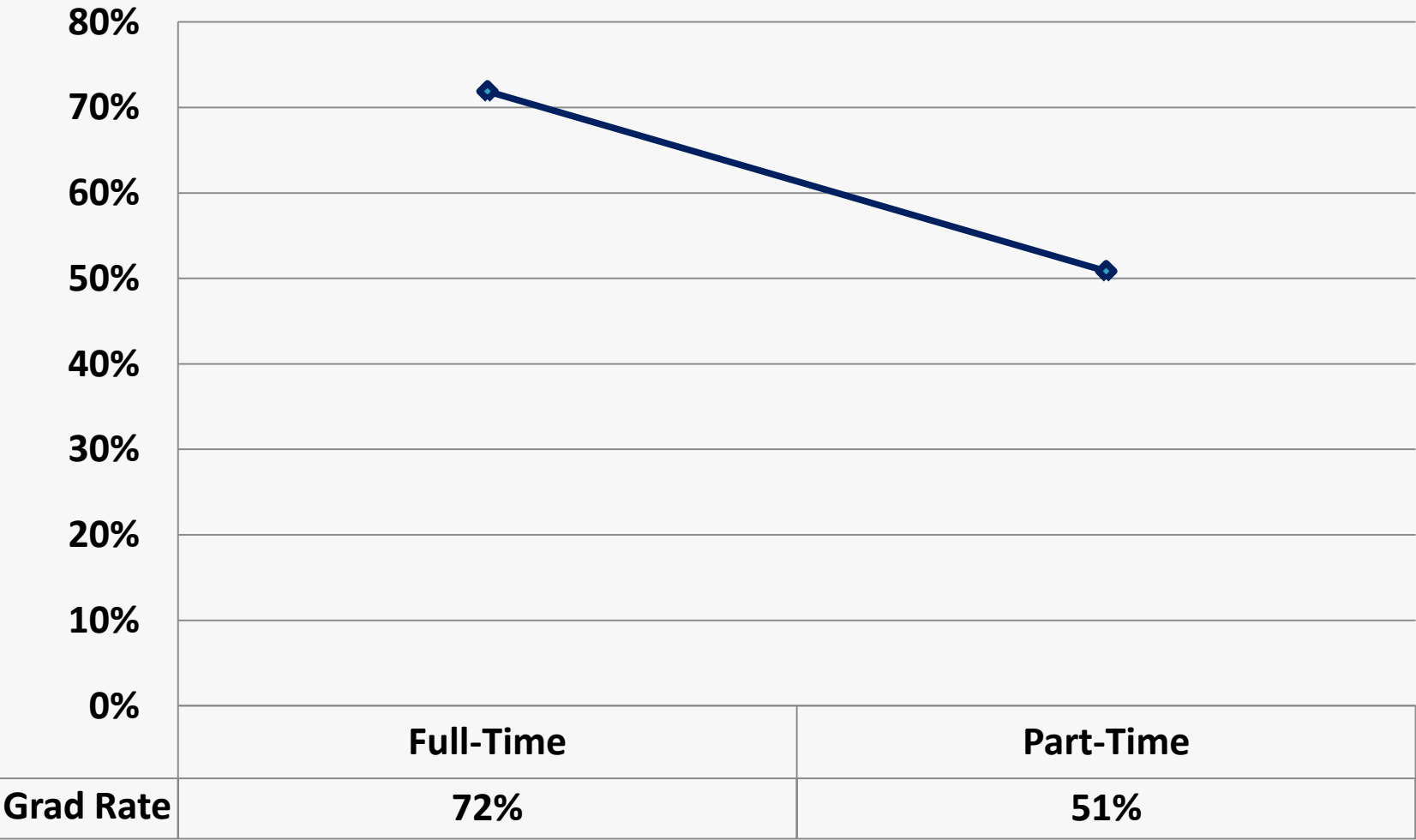
4-Yr Grad Rate by Ethnicity



4-Yr Grad Rate by Gender



4-Yr Grad Rate by Full-Time vs. Part-Time



Predictive Model of 4-Year Transfer Grad Rate

▶ Logistic Regression

- Dependent Variable
 - 4-year Grad (Yes vs. No)
- Independent Variable
 - Dichotomous : Gender, Full-/Part-Time
 - Categorical: Ethnicity, College of Major at Entry
 - Continuous: Transfer GPA

▶ Results Available At:

http://www.fullerton.edu/analyticalstudies/degrees_grad/graduation_rates/UGTgradRateStudy.pdf

Summary of Analysis Results

- ▶ **Predictors of 4-year Graduation (UG Transfers)**
 - Transfer GPA
 - College of major
 - Full-time 1st term
 - Gender
 - Ethnicity

Summary of Analysis Results

- ▶ **Predictors of 4-year Graduation (Transfers)**
 - Strength of association
 - Rescaled Generalized R^2 (Nagelkerke): 15%
 - Classification Accuracy Rate
 - 68% of correctly predicted by model
 - (Classification cutoff: predicted probability = 50%)

What do the results suggest?

- ▶ Less well academically prepared students are less likely to succeed
 - Need for early intervention strategies/early warning structures
- ▶ Men are less likely to succeed than women
 - Need men friendly interventions
- ▶ STEM majors less likely to succeed
 - Need structures to get students off to a successful first year in math and science courses

What do the results suggest? (continued)

- ▶ Freshmen from outside of our local admissions area are less likely to succeed
 - Need structure to academically and socially integrate students so they develop an attachment to the university (Learning communities, mentors)
- ▶ Freshmen who complete remediation in mathematics early in their academic careers are more likely to succeed.
- ▶ Higher SES Freshmen are more likely to succeed.
 - Need to provide additional guidance/support for students whose families have had less experience in higher education.
 - Do not assume a student will know how to seek advisement, support, or even know how or when to register for the next term.

What are we doing?

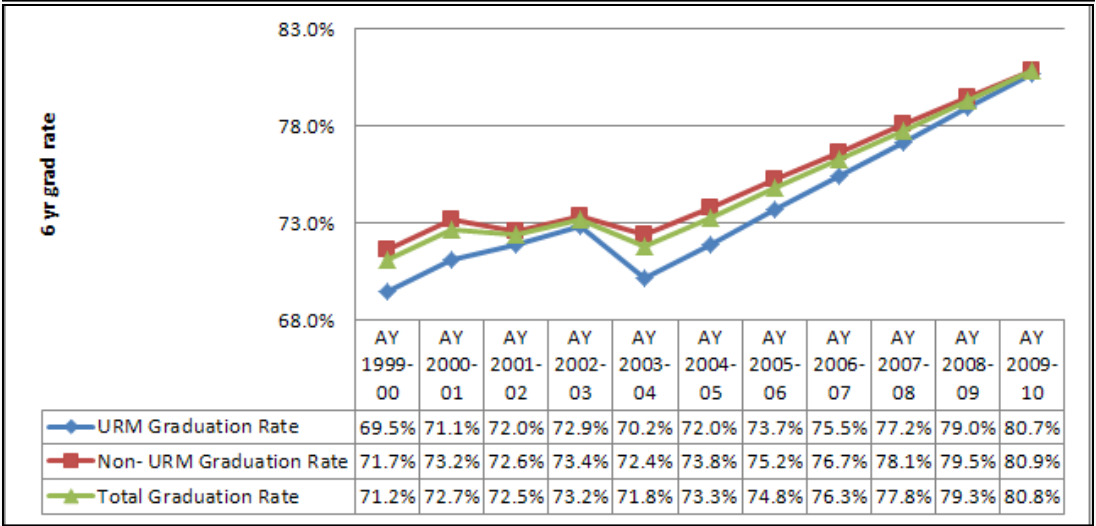
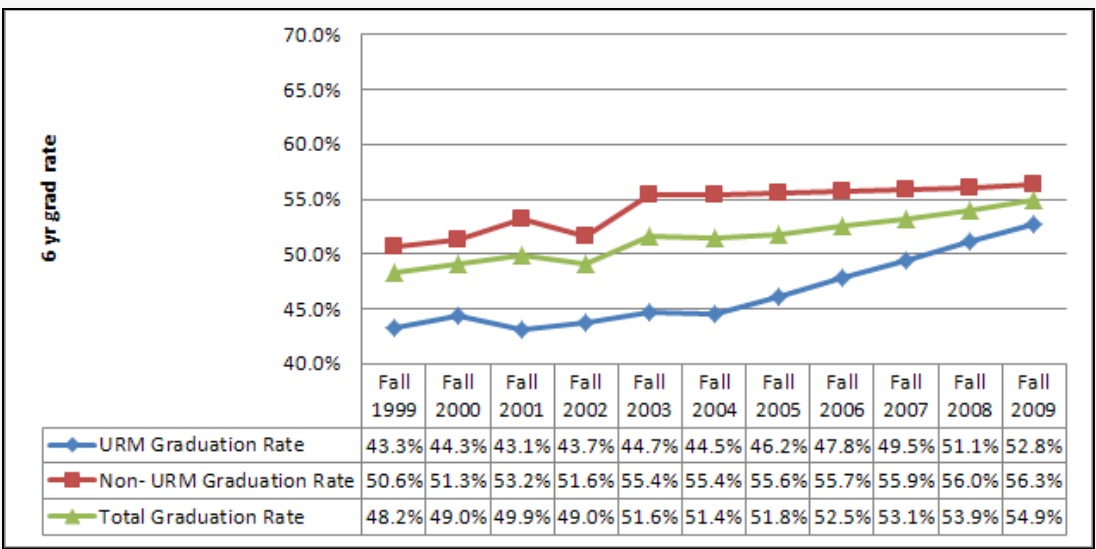
- ▶ **Campus Committee Activities**
 - University Planning Committee
 - Senate Student Academic Life Committee
 - Student Affairs Executive Committee

- ▶ **Graduation Rates Initiative Task Force**
 - Accountability for results
 - Proactive contact with students
 - Improved advisement
 - Monday morning quarterbacking existing processes and procedures

CSU Graduation Rate Initiative at CSU Fullerton

▶ Improve Freshman Graduation Rates

▶ Improve Transfer Graduation Rates



What are we doing?

- ▶ **NSSE Survey Analysis**
 - Identify institutional/environmental factors affecting student retention and graduation

- ▶ **Collaborative Learning**
 - Culturally sensitive ways of learning
 - Benefits of Learning Communities

- ▶ **Mandatory Orientation**
 - In-person for Freshmen
 - Spanish orientation session available for student/parents
 - Online or In-Person for UG transfers

- ▶ **Mandatory Registration in Critical Courses**
 - Remedial math/English courses
 - Required college level mathematics

- ▶ **Improve Advisement Process**
 - Mandatory Advisement
 - Degree Audit Reports

What are we doing?

- ▶ College of Natural Science and Mathematics (NSM)
 - Avoiding Early Academic Failure
 - Early warning/intervention system
 - Supplemental instruction
 - The Study 25-35 Empowerment Campaign
 - Tutoring Center
 - NSM Scholars Program
 - NSM STEM Transfer Center
 - Funded Student Research Opportunities
 - CSU-Louis Stokes Alliance for Minority Participation (CSU-LSAMP)
 - Howard Hughes Medical Institute (HHMI) Research Scholars Program
 - Minority Access to Research Centers (MARC)
 - Minority International Research Training (MIRT)
 - Multicultural Leadership Center (MLC)

What are we doing?

- ▶ College of Engineering & Computer Science
 - ECS Scholars program
 - Learning Community for FTF Retention
 - 1-yr retention: 80% (ECS-wide: 53%)
 - 2-yr retention: 45% (ECS-wide: 32%)
 - Peer Mentor Program
 - Learning Community for FTF Retention
 - ECS Tutoring Services (Title V Grants)

What are we doing?

- ▶ College of Engineering & Computer Science
 - CASECS (Center for Academic Support in ECS)
 - Three-day summer orientation
 - Tutor math, chemistry, and entry-level engineering courses for freshmen
 - Peer Advisor Program
 - Advising of lower division students by upper-division students

Next Steps

- ▶ Improve four/six year graduation rate for all student groups
- ▶ Leverage analyses and programmatic successes to broaden the exposure of our student body to things that augment their likelihood of success
- ▶ Foster faculty conversations at the department level over what might be done to improve quality of student experience as reflected in NSSE scales: Enriching Educational Experiences and Student Faculty Interaction
- ▶ Pursue funding for qualitative discussion with students to determine the aspects of their campus experience that influenced their decisions to remain or depart.

Questions?

- ▶ Presentation available on our website at:
[www.fullerton.edu/analyticalstudies/planning/avp/cair2010 GR.pdf](http://www.fullerton.edu/analyticalstudies/planning/avp/cair2010_GR.pdf)