



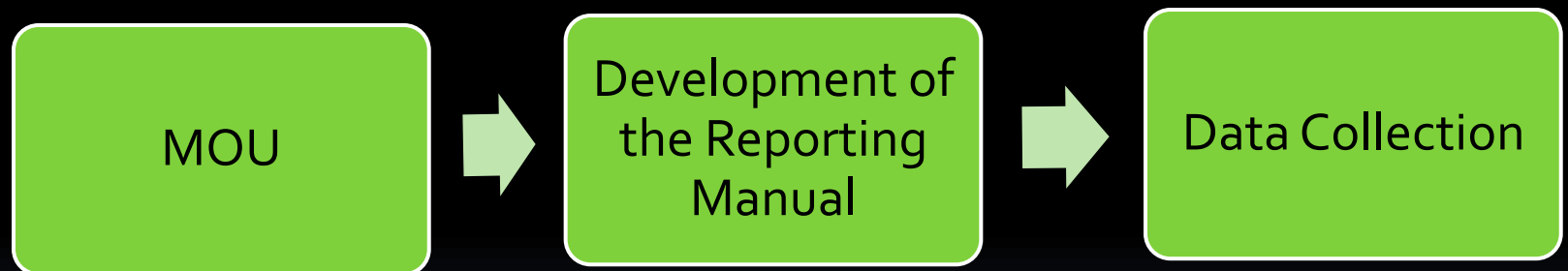
PATHWAYS PROJECT



Pathway Project Overview

- Partners (secondary and post-secondary) from all levels of education agree to share student level data.
- Partners assign faculty members from all levels to meet on a monthly basis.
- The data is then used to generate reports for faculty teams.
- The faculty teams use the data to fuel interventions designed to increase student success.

Data Collection Process



Data Collected


- Enrollment
- Course (grades included)
- Graduation Data

- Reporting Manuals

<http://www.txhighereddata.org/ReportingManuals.cfm>



Faculty Reports


- The first faculty reports were designed to match CAL-PASS reports.
 - CAL-PASS's reporting methods are "time tested".
 - The reports are basically a simple student-course to student-course match.
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Faculty Reports (Cont.)

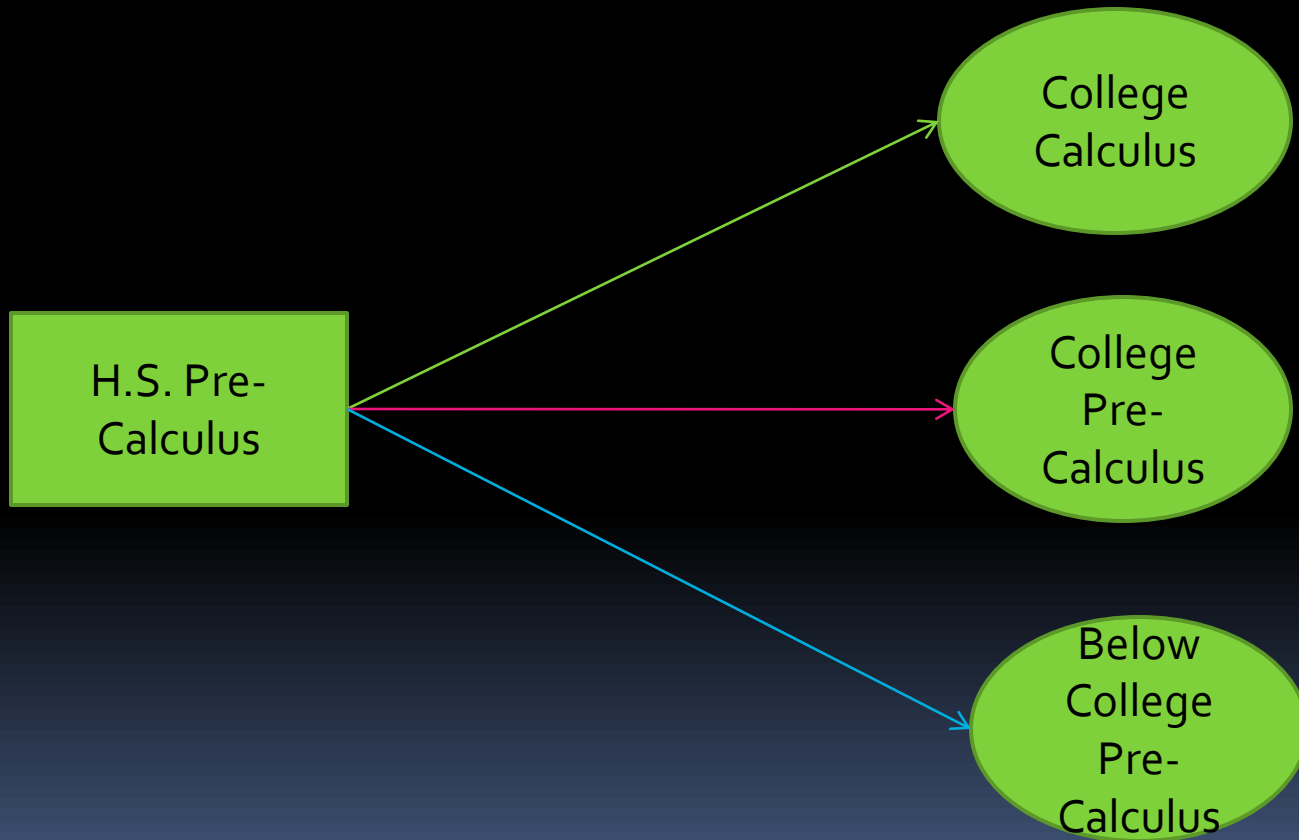




Faculty Reports- Alignment Reports

- Alignment reports are designed to illustrate possible gaps in secondary/ post-secondary alignment.
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Faculty Reports- Alignment Reports (Cont.)

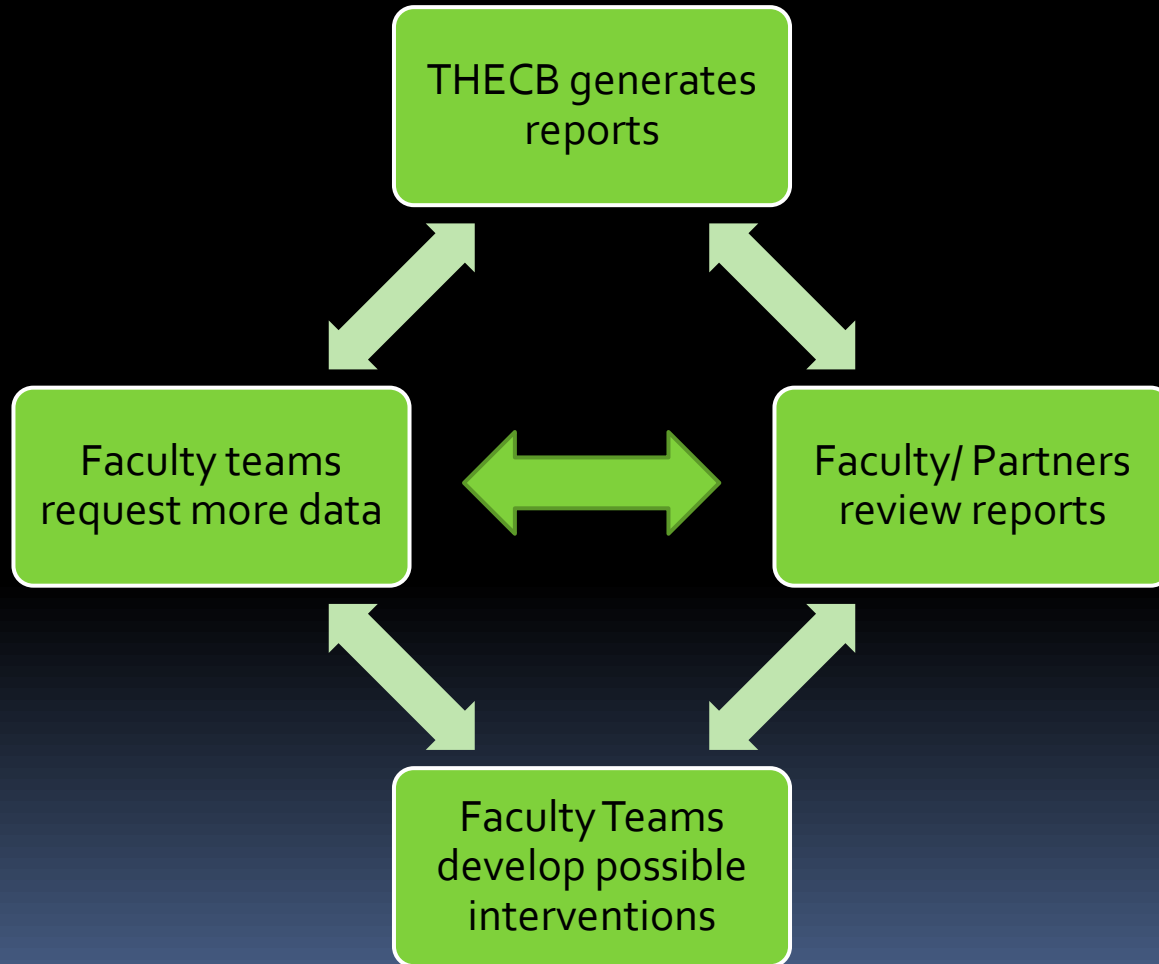




Faculty Reports

- Cohort Studies
- Predictive modeling
- Special Topic Reports
 - Study Skills
 - Dual Credit
 - Developmental Education
- Outcome reports
- Survey results

Faculty Report Cycle




Faculty Reports

- Giving faculty reports at the ISD level is important to the Pathways process.
 - Understanding how different student populations affect alignment
 - Understanding how successful ISD projects are effecting current alignment
- Pathways project does not compare ISD's.
- It only evaluates Pathways' interventions.




Faculty Teams

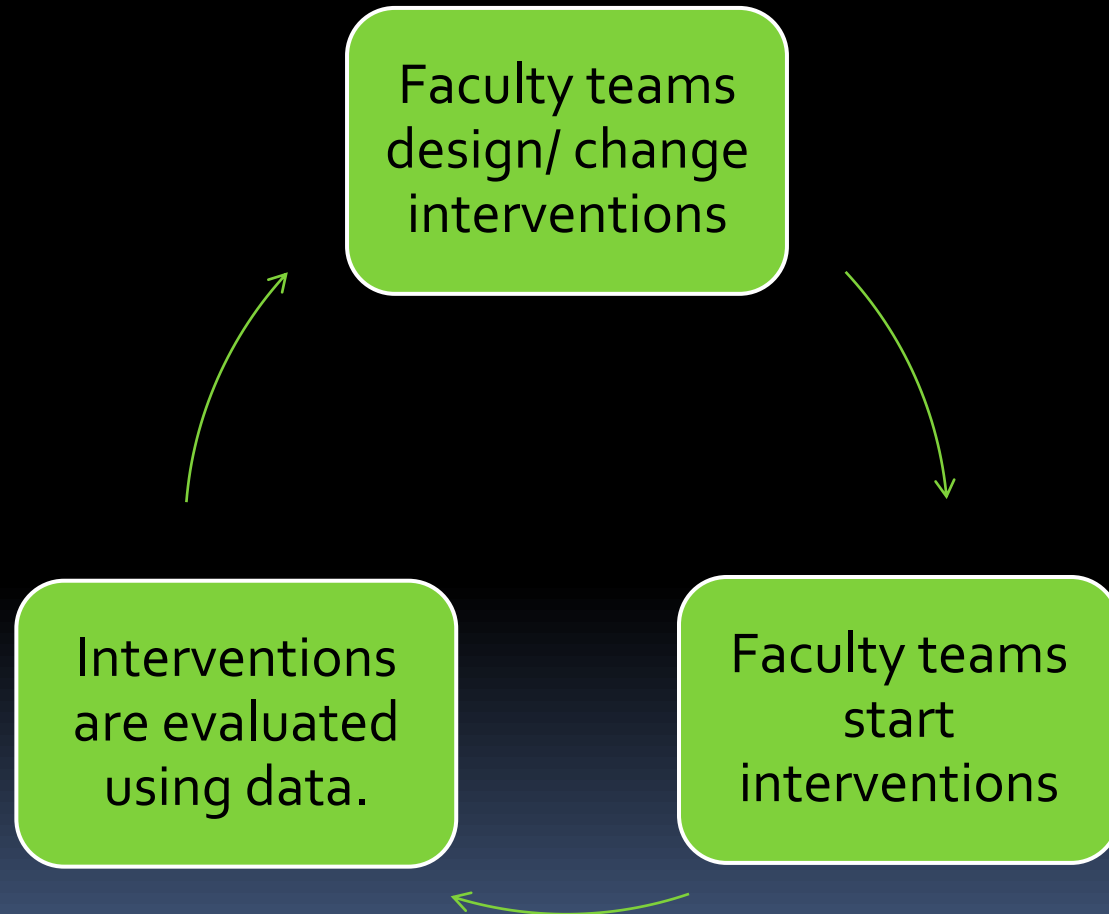
- Faculty Teams are focused around local need for vertical alignment .
 - San Antonio and Houston Faculty Teams
 - Mathematics
 - English
 - U.S. History (Social Sciences)
 - Biology/ Chemistry (Sciences)
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Faculty Teams

- Faculty teams are supported by a regional coordinator, the THECB, and Cal-PASS.
 - Faculty teams meet once a month.
 - Initially, faculty teams meetings center around team organization and faculty reports.
 - Then, faculty teams are charged with development of interventions for all education levels to better align secondary and post-secondary.
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The Goal of the Pathway Process



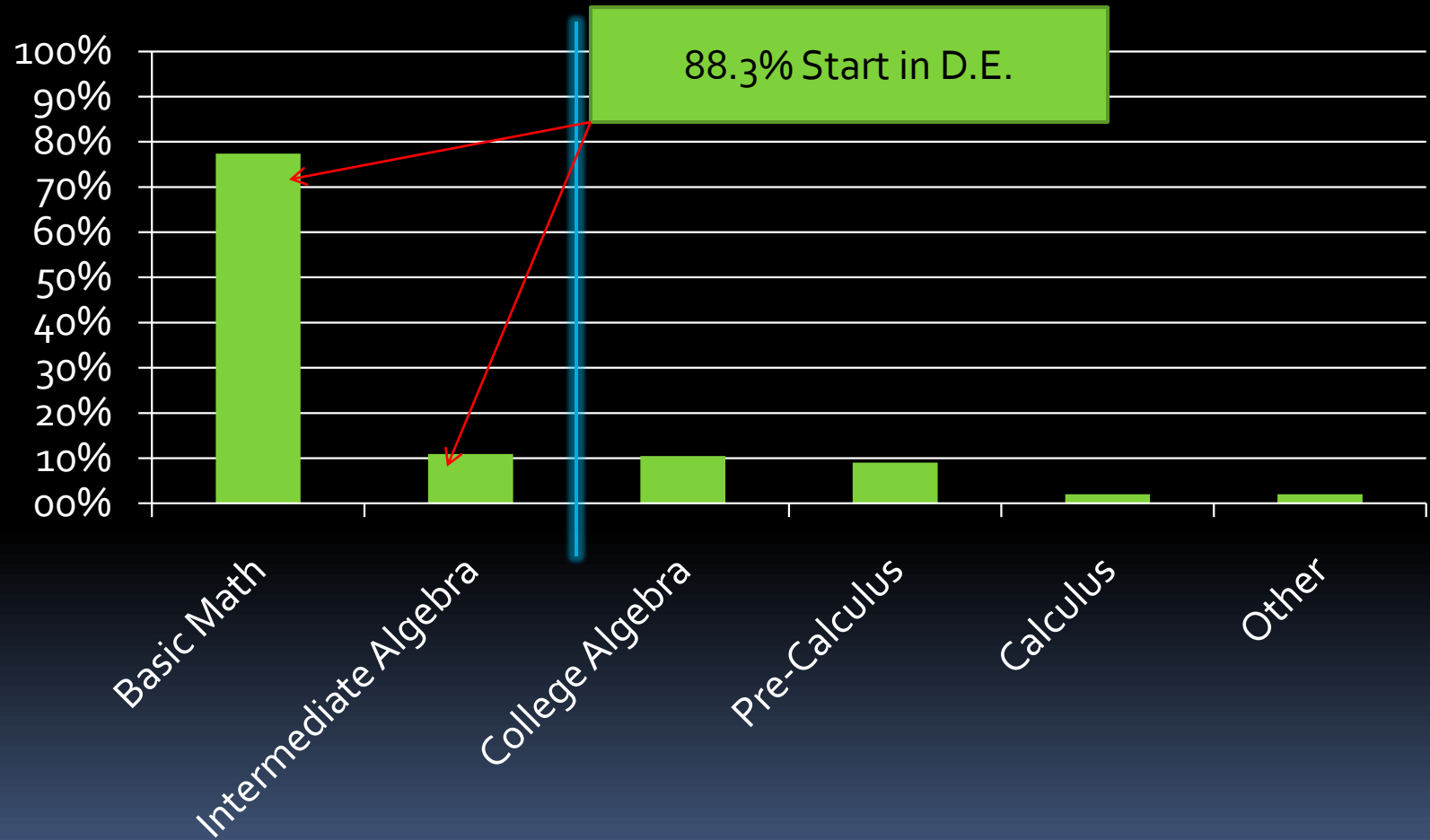


THE DATA

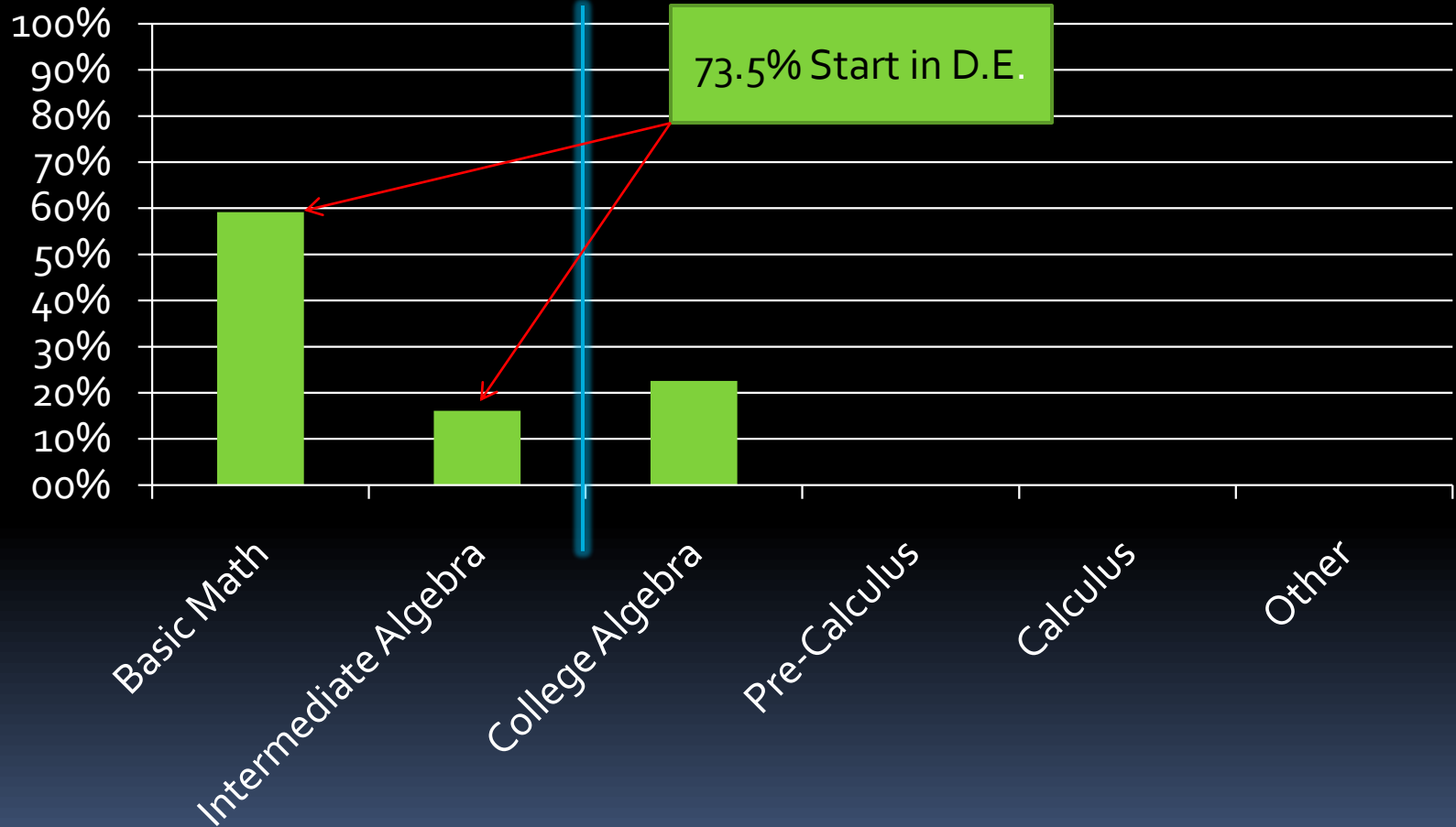


THE ALGEBRA 2

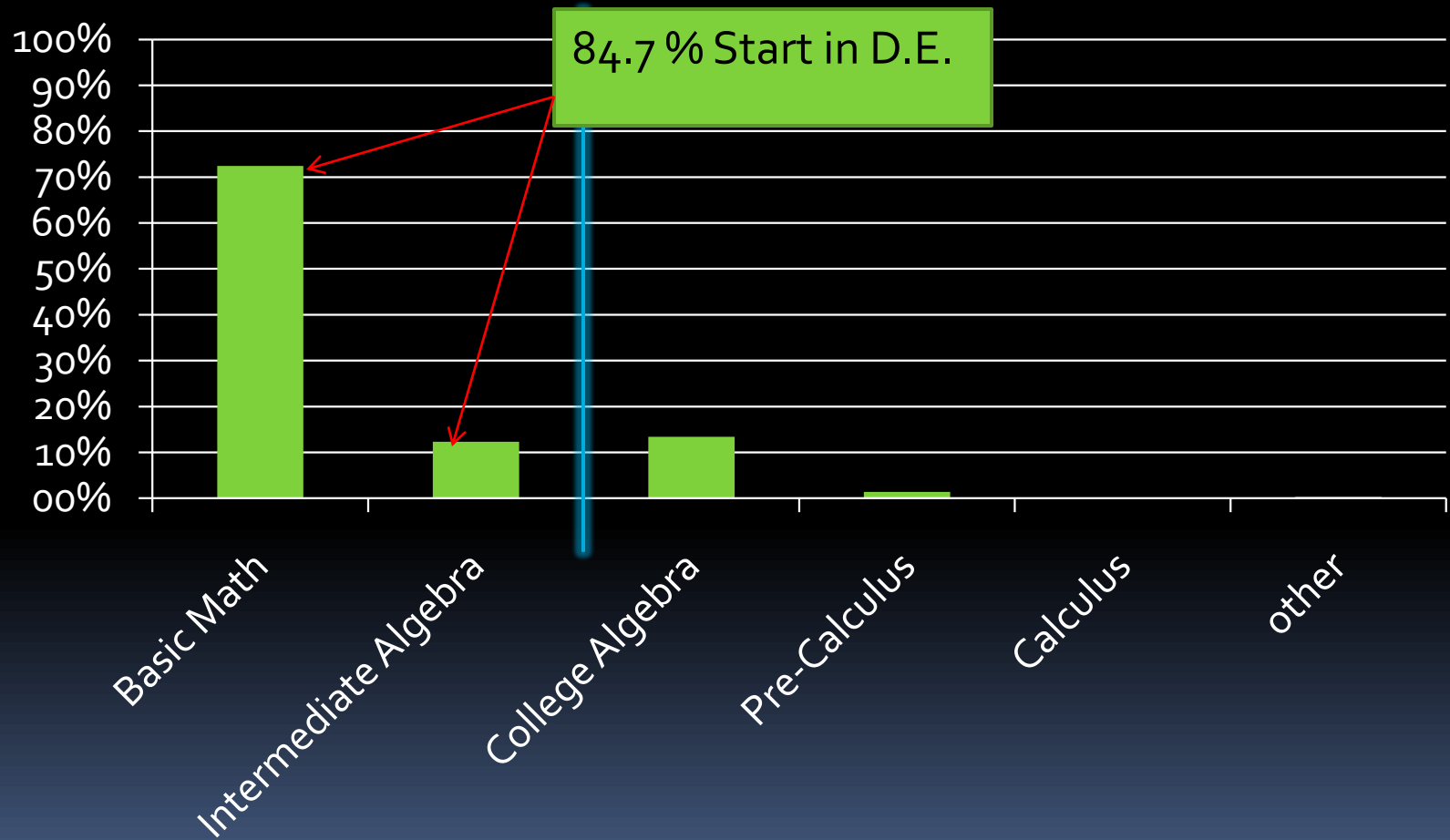
First College Math Course at a 2-year institution for Students who passed Algebra 2 in High School



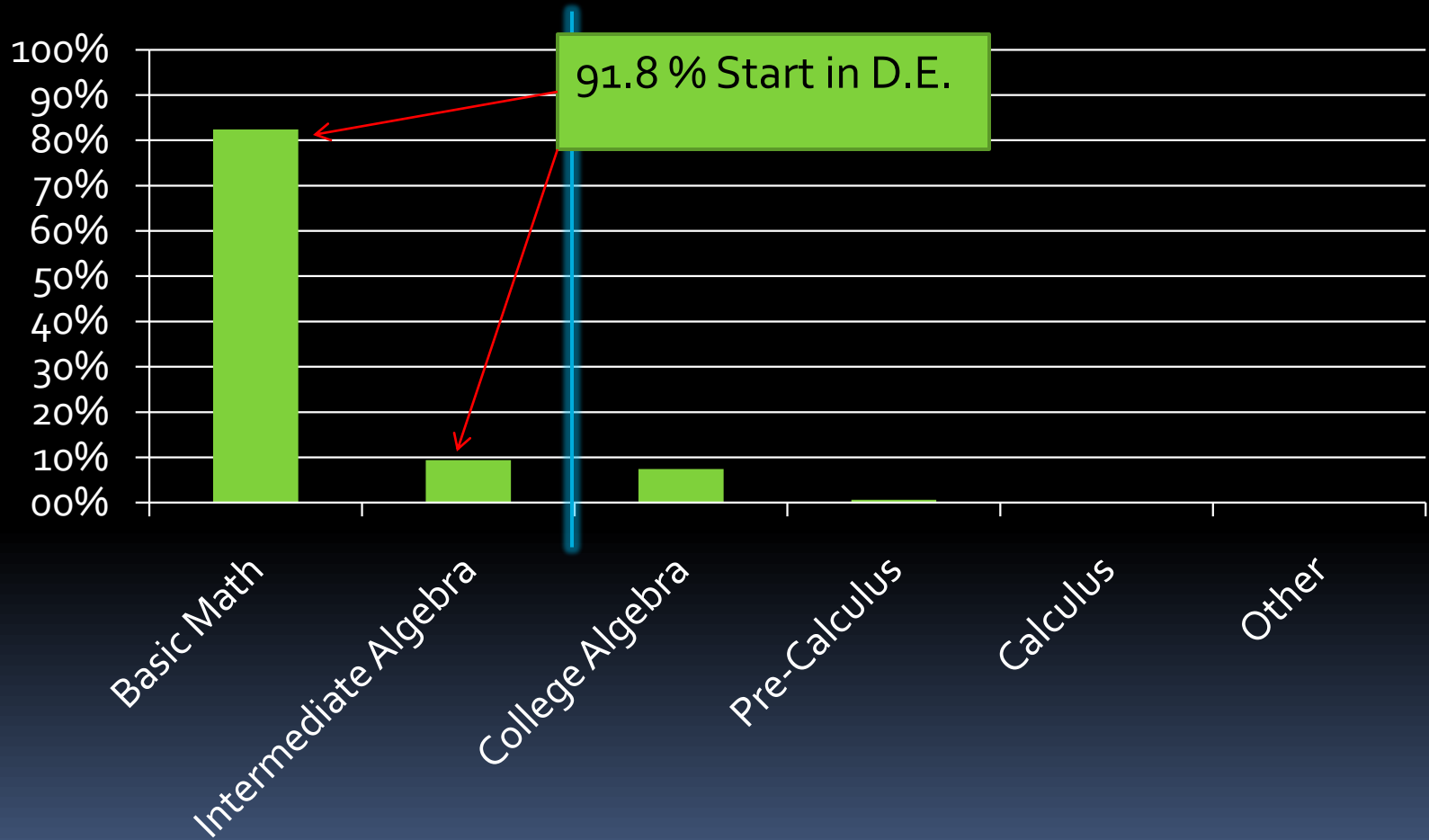
First College Math Course at a 2-year institution for Students who earned an “A” in Algebra 2



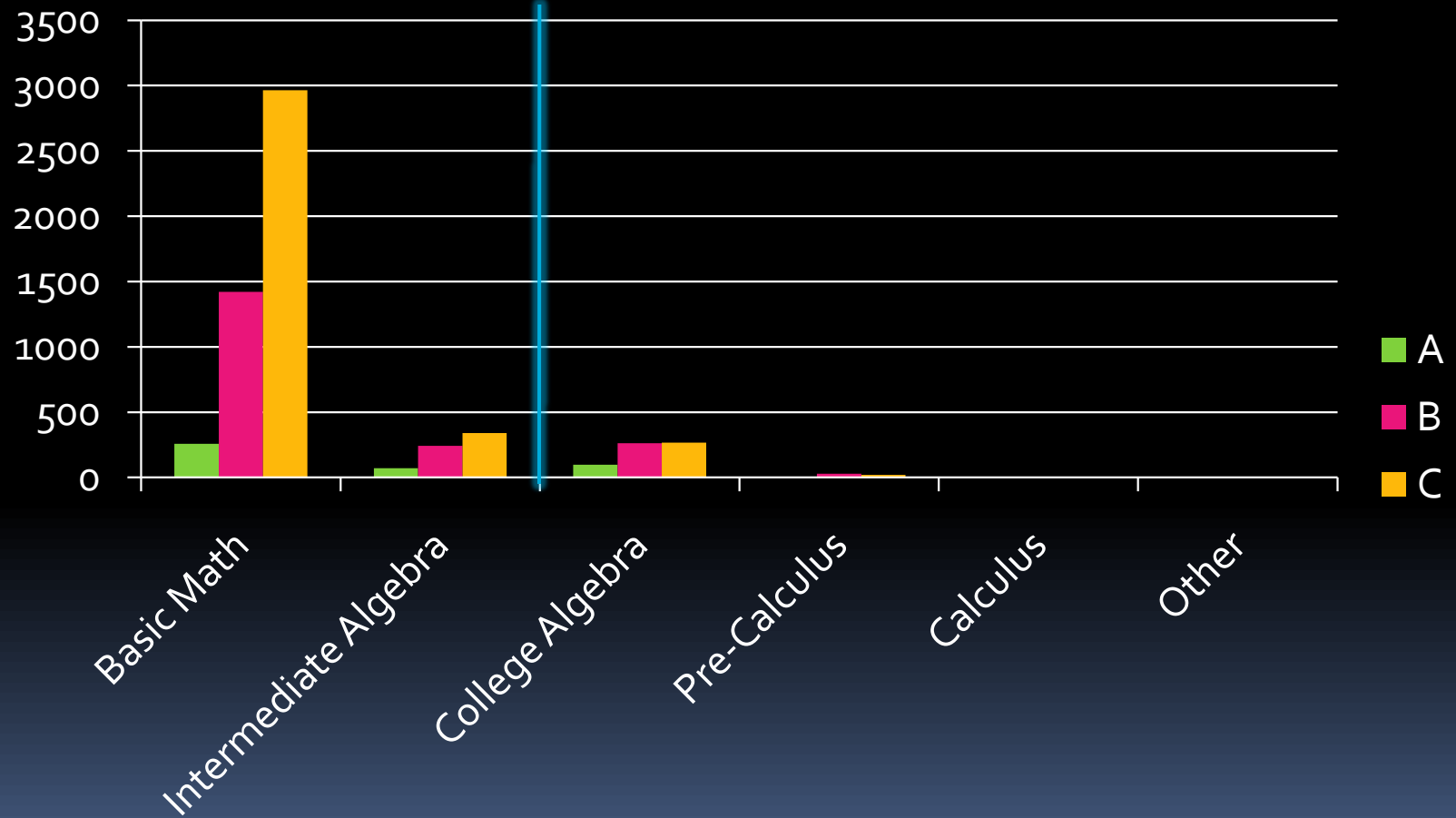
First College Math Course at a 2-year institution for Students who earned a “B” in Algebra 2



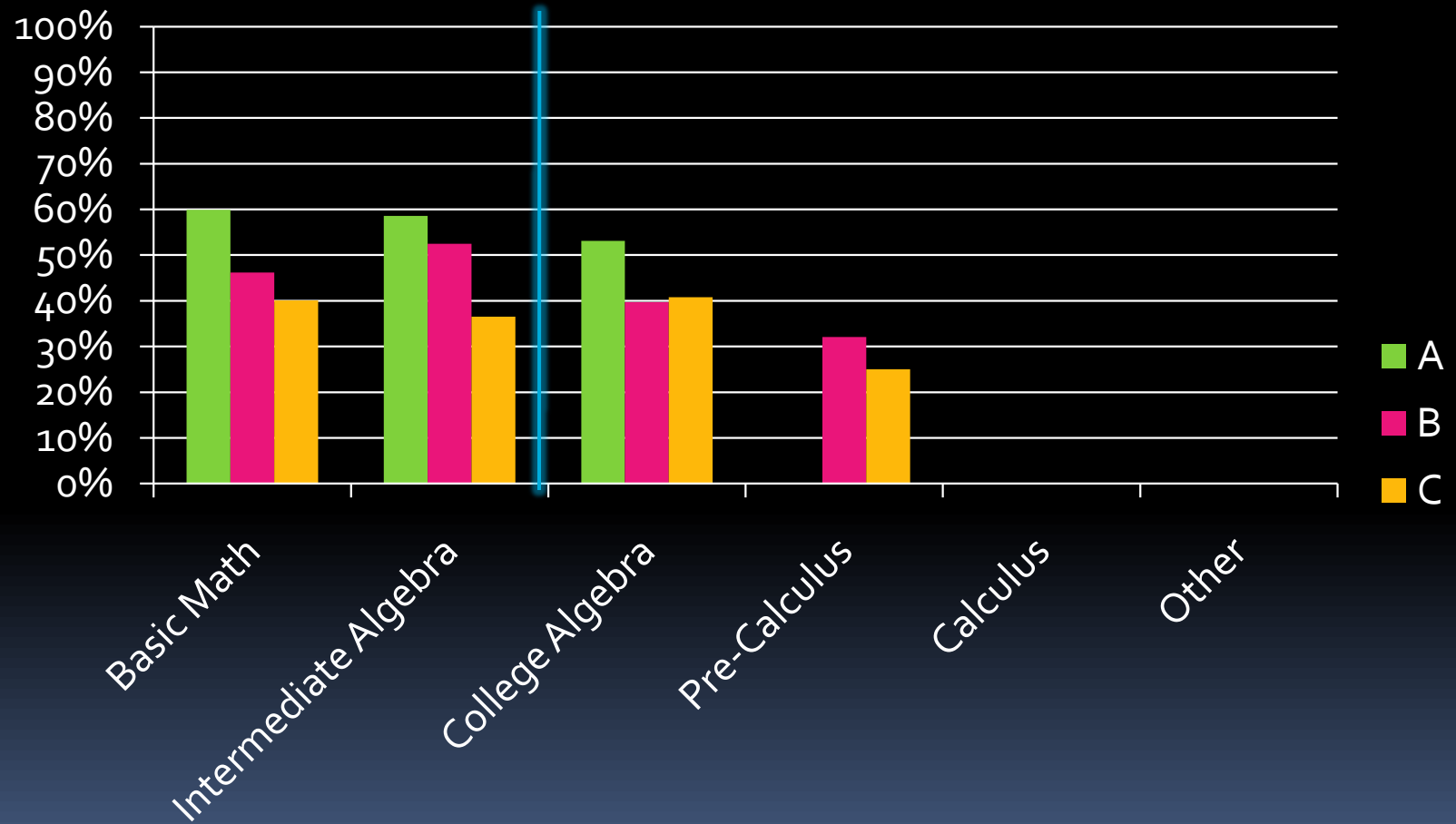
First College Math Course at a 2-year institution for Students who earned a “C” in Algebra 2



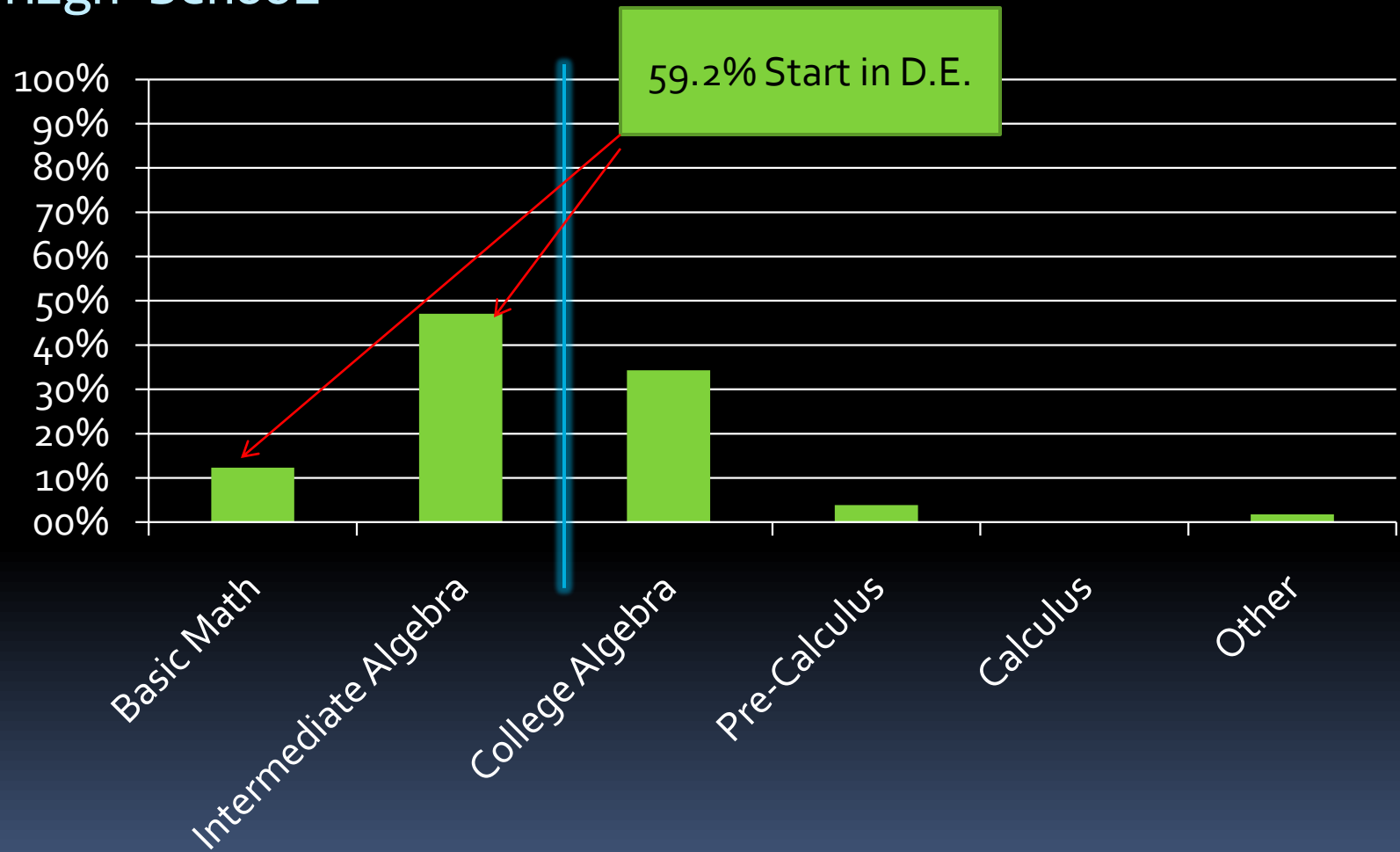
First College Math Course at a 2-year institution for Students who took Algebra 2 in High School by Course Grade



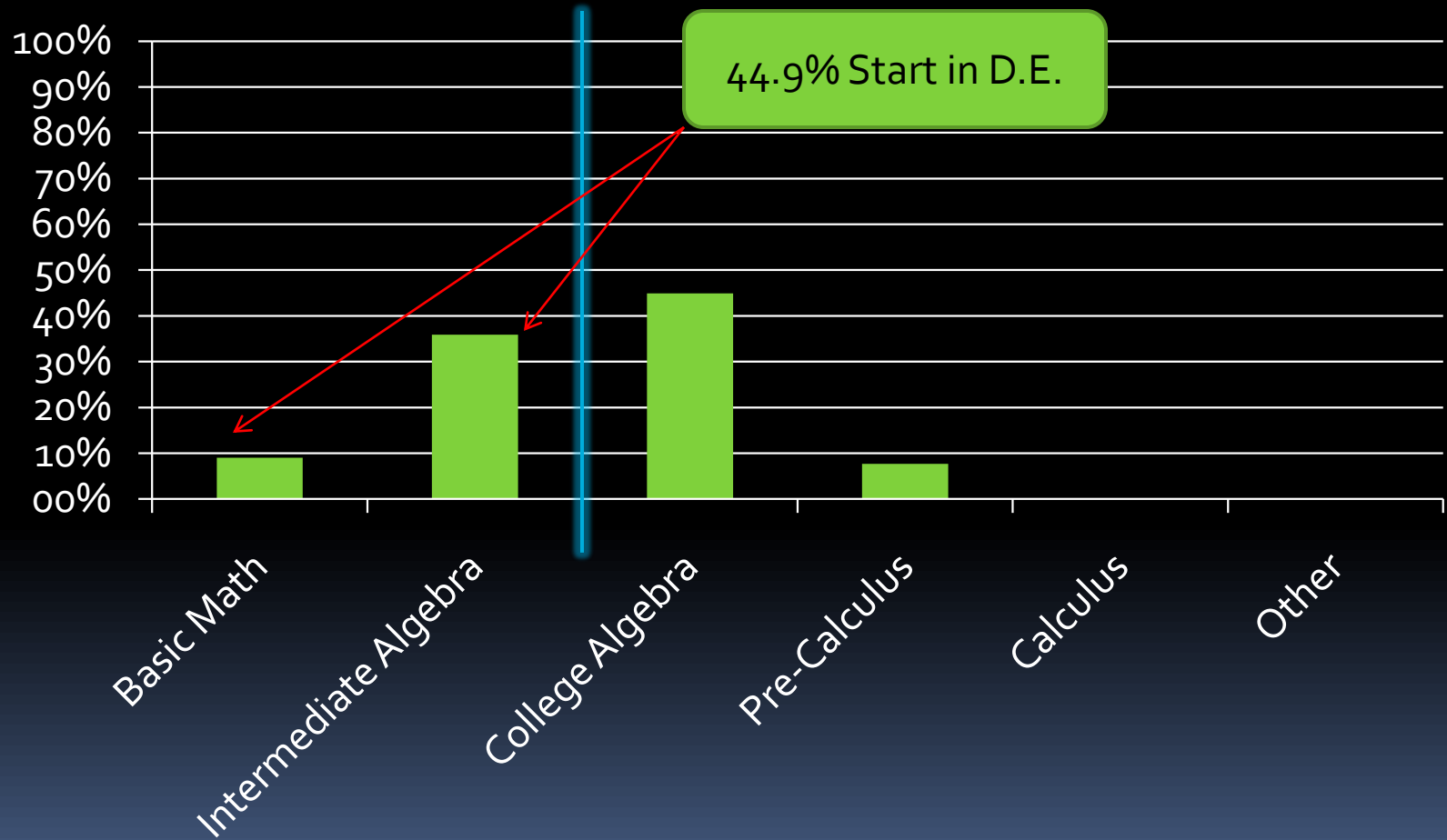
Overall Success Rates in First College Math Course at a 2-year institution for Students who took Algebra 2 in High School by Course Grade



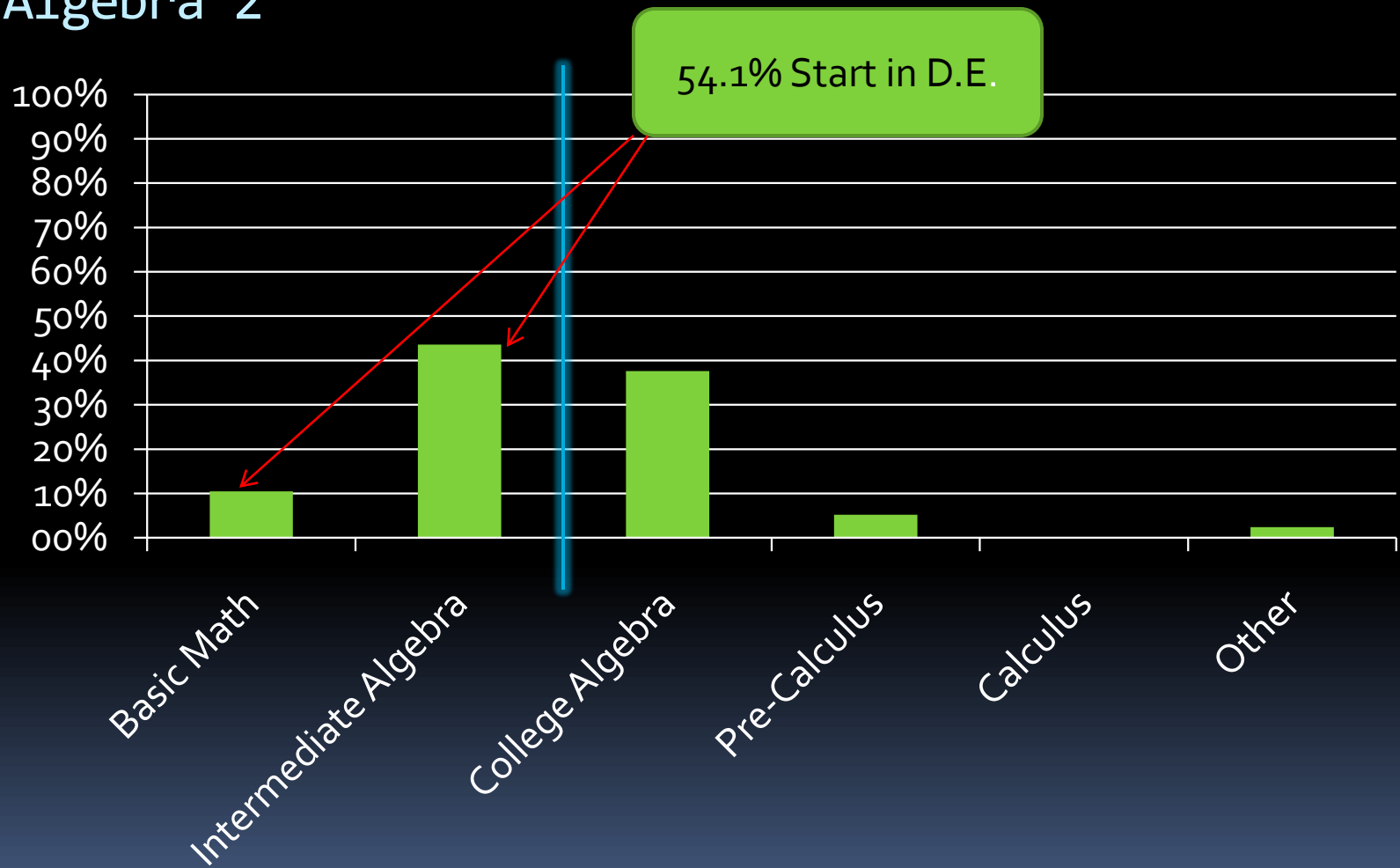
First College Math Course at a 4-year institution for Students who passed Algebra 2 in High School



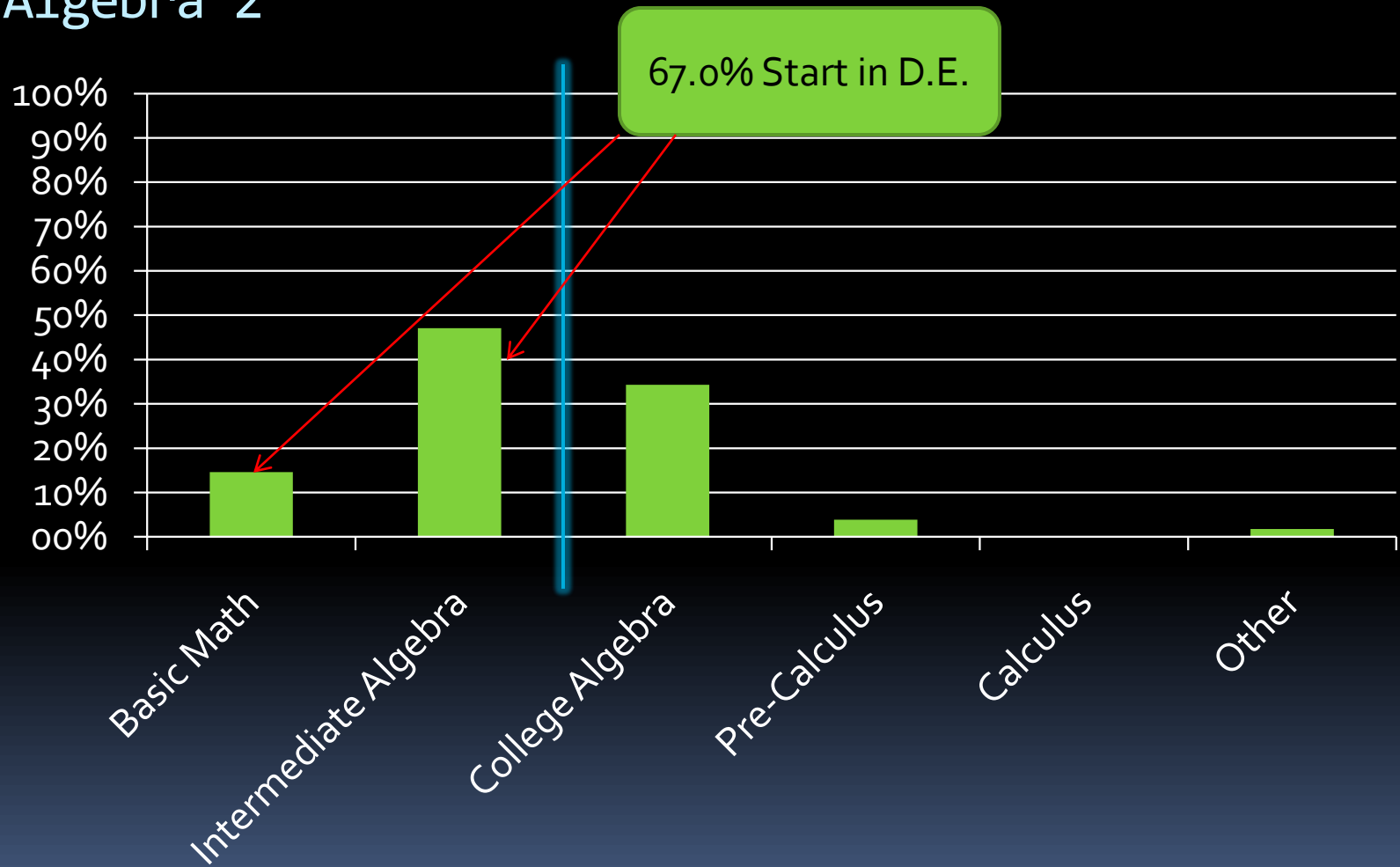
First College Math Course at a 4-year institution for Students who earned an “A” in Algebra 2



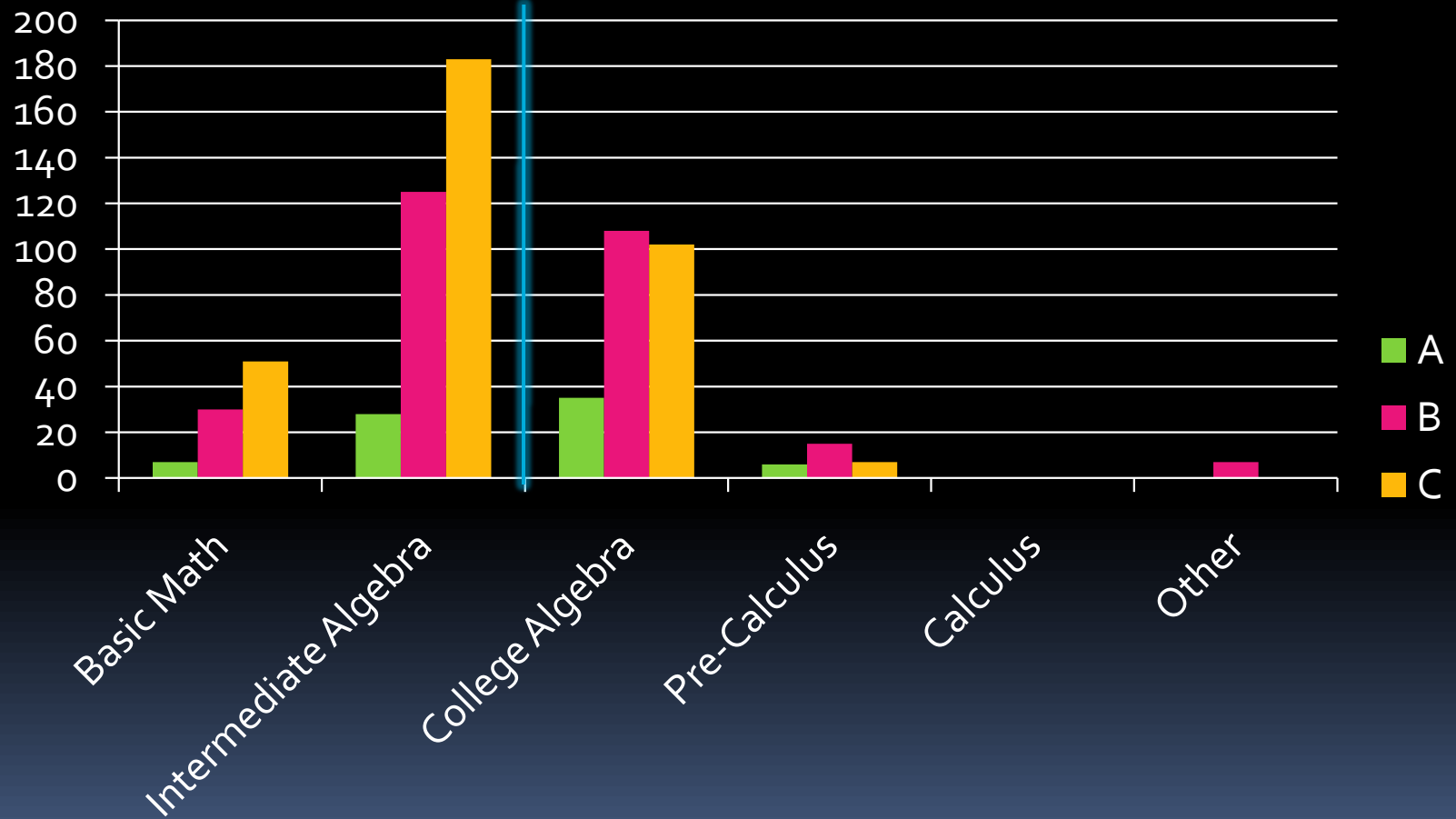
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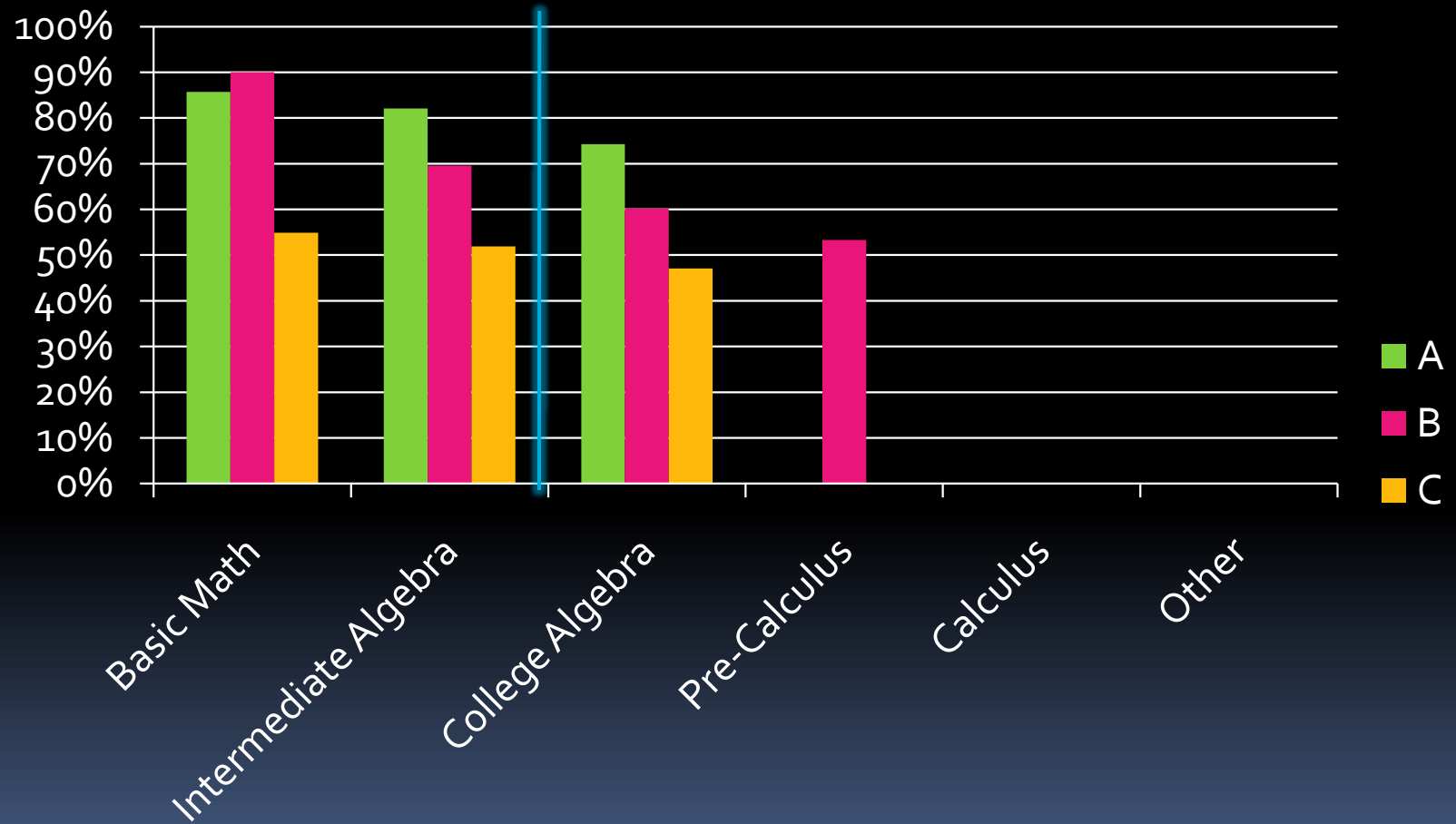
First College Math Course at a 4-year institution for Students who earned a “C” in Algebra 2



First College Math Course at a 4-year institution for Students who took Algebra 2 in High School by Course Grade



Overall Success Rates in First College Math Course at a 4-year institution for Students who took Algebra 2 in High School by Course Grade





MATH COHORT STUDY

Math Cohort Study- Methods

- Using 5 of the school district's, we tracked a the 2005-2006 graduation cohort back 4 years in High School and forward 2 years in Higher Education.
- Only students who could be found for 4 years in H.S. were included.

Participants

- A total of 9918 students in the FY2006 H.S Graduation cohort.
- 409(4%) students were non- trackable.
 - Latinos were disproportionately more likely to be removed ($\chi^2(4)=114.6, p<.0001$).
 - The economically disadvantaged were disproportionately more likely to be removed ($\chi^2(1)=114.7, p<.0001$).
- Then, 1200 (12.6%) students removed for not having 4 years of H.S. in the database.
 - Latinos and African-Americans were disproportionately more likely to be in this group ($\chi^2(4)=118.6, p<.0001$).

Participants

- The total sample was 8,309 students
- 50.7% were female.
- 63.1% were Hispanic, 27.5% white, 7.4% black, 1.9% Asian, and 0.1% Native American
- 50.5% were economically disadvantaged.
- 72.8% received a recommended H.S. Diploma, 11.1% minimum, 7.9% IEP, and only 8.2% distinguished

H.S. Course Taking Patterns

FY2006 Cohort

Alg. 1	Math Models	Geo.	Alg. 2	Stats	Pre-Calc	Calc	Total	%	
		X	X		X	X	621	7.7%	A
			X		X	X	198	2.5%	B
X		X	X		X		1029	12.8%	C
		X	X		X		748	9.3%	D
X		X	X				2722	33.9%	E
X	X	X	X				1103	13.7%	F
		X	X				478	6.0%	G
X			X				190	2.4%	H
	X	X	X				178	2.2%	I

TAKS TEST


- Analysis -Linear Regression
- $N=7,254$
- Outcome Variable:
 - Exit Level Math TAKS Test
- Predictor Variables :
 - Course Taking behavior (9 was the reference group)
 - Gender (female was the reference group)
 - Economically Disadvantaged (not disadvantaged was the reference group)
- The overall model was significant, ($F (10,6682)=560.97$, $p<.0001$).
- Approximately, 45.6% variance in the TAKS Math was explained by the predictor variables.

TAKS Test

Predictors	B	Significance at $p < .01$
Intercept	2214.9	
Male	36.12	S
Economically Disadvantaged	-76.1	S
A- Course taking Pattern	248.54	S
B- Course taking Pattern	309.74	S
C- Course taking Pattern	71.48	S
D- Course taking Pattern	121.00	S
E- Course taking Pattern	-16.71	ns
F- Course taking Pattern	-57.36	ns
G- Course taking Pattern	-0.33	ns
H- Course taking Pattern	-122.18	S



TAKS Test

- Students who take Course Patterns ending in Pre-Calculus or Calculus perform better on the TAKS than students with ending in Algebra 2 even after the effects of SES and gender are removed.
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College Going Behavior

- Analysis -Logistic Regression
- N=7,254
- Outcome Variable:
 - Found in College Vs. Not Found in College
- Predictor Variables :
 - Course Taking behavior (g was the reference group)
 - Gender (female was the reference group)
 - Economically Disadvantaged (not disadvantaged was the reference group)
- The overall model was significant, (χ^2 (10)=918.5, $p<.0001$).

College Going Behavior

Predictors	Odds of Going to College	Significance at $p < .01$
Male	0.77	S
Economically Disadvantaged	0.57	S
A- Course taking Pattern	6.34	S
B- Course taking Pattern	6.75	S
C- Course taking Pattern	4.92	S
D- Course taking Pattern	4.16	S
E- Course taking Pattern	1.30	ns
F- Course taking Pattern	0.87	ns
G- Course taking Pattern	0.92	ns
H- Course taking Pattern	0.34	S



College Going Behavior

- Students who take Course Patterns ending in Pre-Calculus or Calculus were more likely to go to college than students with ending in Algebra 2 even after the effects of SES and gender are removed.

Level of Developmental Education

- Analysis -Logistic (Multinomial) Regression
- N= 3,096
- Outcome Variable: Starting Math Level at ACCD

Coding	Math Level
1	Lowest Level of DE
2	
3	
4	Highest level of DE
5	Credit Bearing Course

Level of Developmental Education


- Predictor Variables :
 - Course Taking behavior (g was the reference group)
 - Gender (female was the reference group)
 - Economically Disadvantaged (not disadvantaged was the reference group)
- The overall model was significant, ($\chi^2(10)=1443.0, p<.0001$).

Level of Developmental Education

Course taking Pattern	Odds of being in a higher level of DE	Significance at $p < .01$
Male	1.3	S
Economically Disadvantaged	0.27	S
A- Course taking Pattern	31.5	S
B- Course taking Pattern	48.7	S
C- Course taking Pattern	4.3	S
D- Course taking Pattern	4.4	S
E- Course taking Pattern	0.83	ns
F- Course taking Pattern	0.40	S
G- Course taking Pattern	1.1	ns
H- Course taking Pattern	0.20	S



Level of Developmental Education

- Students who take Course Patterns ending in Pre-Calculus or Calculus were more likely to be placed in credit bearing courses than students with ending in Algebra 2 even after the effects of SES and gender are removed.
- 

Level of Developmental Education- UTSA

- Analysis -Logistic (Multinomial) Regression
- N= 462
- Outcome Variable: Starting Math Level at UTSA

Coding	Math Level
1	Lowest Level of DE
2	Highest level of DE
3	Credit Bearing Course

Level of Developmental Education


- Predictor Variables :
 - Course Taking behavior (G,H, and I were the reference group)
 - Gender (female was the reference group)
 - Economically Disadvantaged (not disadvantaged was the reference group)
- The overall model was significant, ($\chi^2(7)=109.1, p<.0001$).

Level of Developmental Education

Course taking Pattern	Odds of being in a higher level of DE	Significance at $p < .01$
Male	1.8	S
Economically Disadvantaged	0.30	S
A- Course taking Pattern	4.2	S
C- Course taking Pattern	0.75	ns
D- Course taking Pattern	0.49	ns
E- Course taking Pattern	0.30	S
F- Course taking Pattern	.15	S




Level of Developmental Education

- Students who take Course Patterns ending in Calculus were more likely to be placed in credit bearing courses than students with ending in Algebra 2 even after the effects of SES and gender are removed.
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Conclusions

- For this region, Algebra 2 does not predict success placement into a college credit bearing course.
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Future Research Plans

- Linking Pathway's Data to other research projects at ACCD
 - Dual Credit studies
 - English Study
 - STEM Studies
 - El Paso Pathways
 - Houston Pathways
 - Statewide Pathways?
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THECB Contacts

- Contact us.

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