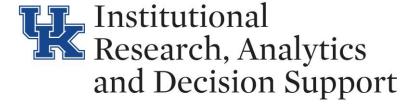
Test Optional Policy Student Success Assessment

January 2023



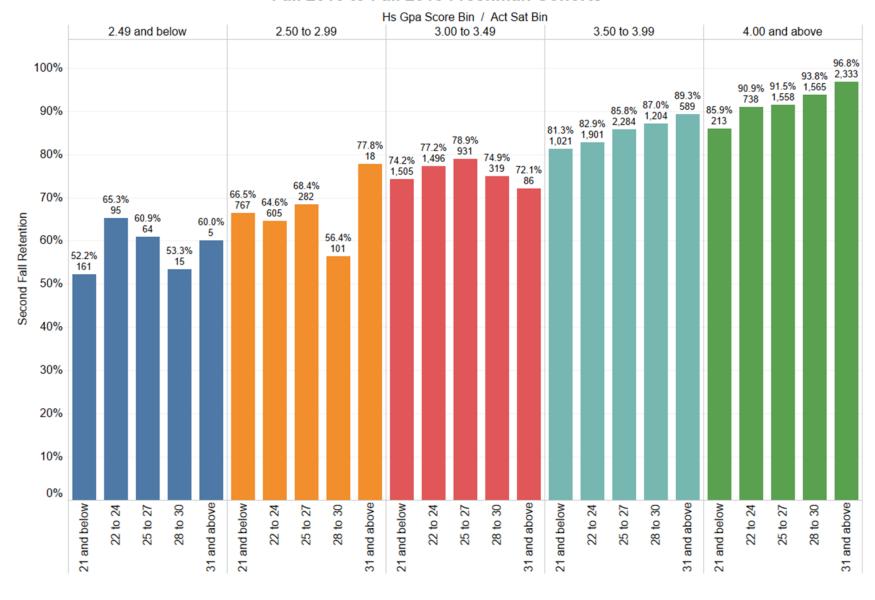
Background



ACT Bins and HS GPA Bins vs 2nd Fall Retention

- National and internal research has long indicated that HS GPA was a better predictor of student success than test scores
- As a visual example, here is 2nd Fall Retention for test scores across HS GPA bins. There appears to be a relationship above 3.5 but it is not pronounced and much weaker below this threshold

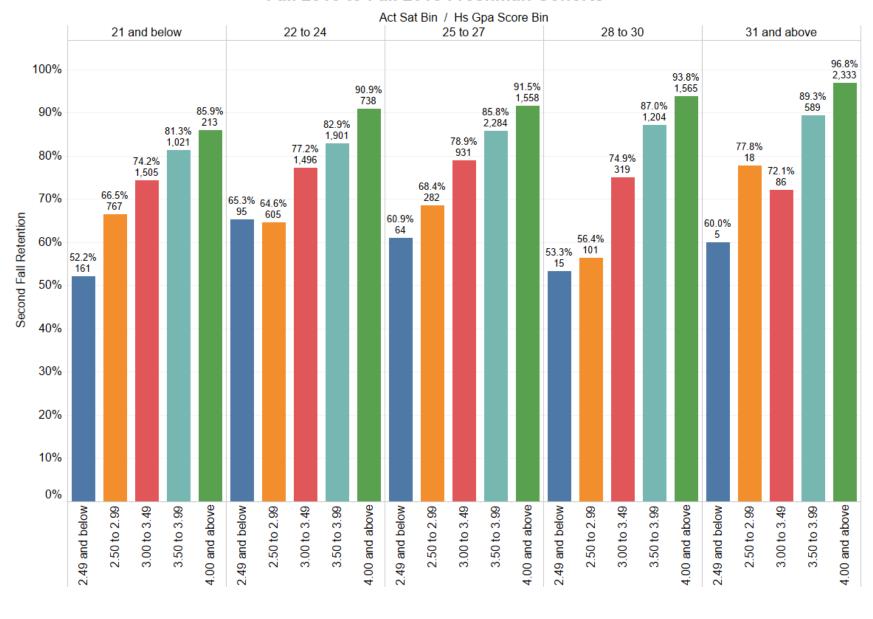
Fall 2015 to Fall 2018 Freshman Cohorts



Fall 2015 to Fall 2018 Freshman Cohorts

ACT Bins and HS GPA Bins vs 2nd Fall Retention

- However, by simply reversing the bins, you clearly see the strong relationship across test score bins, indicating that HS GPA is a good predictor of 2nd Fall Retention regardless of Test Scores
- In summer 2020, IRADS began work on developing test optional rules to replace existing criteria based on ACT (or SAT equivalent) due to the pandemic as well as long held concerns around standardized tests across campus



MA Prerequisite Transcript Rules Example of rule related analytics to inform discussions from Fall 2020

Domain	Rule Outcome	Rule Group	Rule Description						
MA 111	Reject	ACT	ACT Math >= 19	9%, n=88	2.78, n=46				
		IRADS (original)	3.0 or Calculus	11%, n=110	2.25, n=36				
		A&S	2.85	9%, n=91	2.14, n=29				
		MA Dept.	3.0 or (2.5 and Pre-Calc)	11%, n=107	2.14, n=35				
	Accept	ACT	ACT Math >= 19	91%, n=898	3.25, n=179				
		IRADS (original)	3.0 or Calculus	89%, n=876	3.32, n=189				
		A&S	2.85	91%, n=895	3.30, n=196				
		MA Dept.	3.0 or (2.5 and Pre-Calc)	89%, n=879	3.34, n=190				
				0% 50% 100% 150%	0.00 2.00 4.00				
				Rejection Rate	Average Class Grade				

Admissions rules as implemented for Fall 2021

Test Optional Admissions Rules and test optional rates Fall 2021 and 2022 Cohorts

Rule Group	Act Rule Text	Trans Rule1 Text	Trans Rule2 Text	Trans Rule3 Text	Affected Enrollment	
Math Readiness	ACT-M >= 19	HS GPA >= 3.0	HS GPA >= 2.5 and Pre-Calc	Calculus	10,551	29%
Reading Readiness	ACT-R >= 20	HS GPA >= 2.9			10,551	29%
Writing Readiness	ACT-E >= 18	HS GPA >= 2.9			10,551	29%
Engineering Admissions	ACT-M >= 25 and HS GPA >= 3.0	HS GPA >= 3.65	HS GPA >= 3.3 and Pre-Calc	HS GPA >= 3.0 and Calculus	1,424	13%
Health Sciences Admissions	ACT-M >= 23	HS GPA >= 3.45	HS GPA >= 3.1 and Pre-Calc	Calculus	554	25%
Nursing Admissions	ACT-M >= 22 and HS GPA >= 3.25	HS GPA >= 3.40			660	30%
						0% 20% 40% 60% 80% % of Enrollment that is Test Optional

Class prerequisite rules as implemented for Fall 2021

Test Optional Class Prerequisites Rules and test optional rates Fall 2021 - Spring 2023

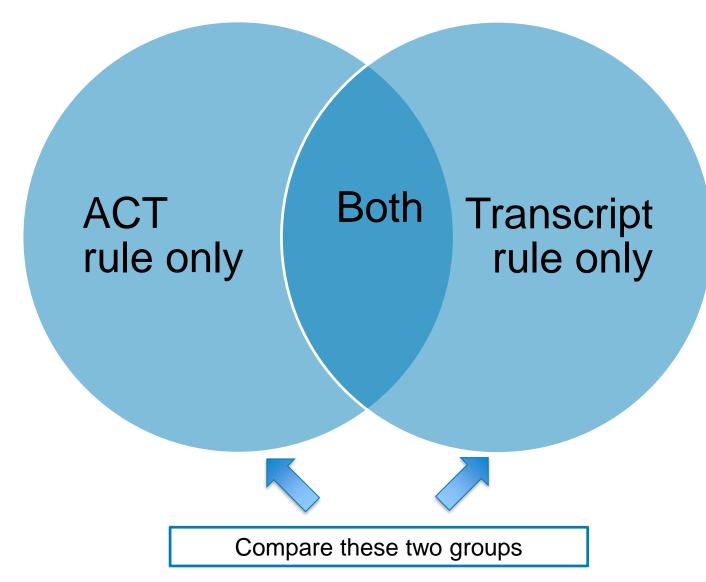
Class	Act Rule	Transcript Subrule 1	Transcript Subrule 2	Transcript Subrule 3	Enrollment	
CIS 112	ACT-E >= 32	HS GPA >= 3.9			618	10%
WRD 112	ACT-E >= 32	HS GPA >= 3.9			937	13%
MA 111	ACT-M >= 19	HS GPA >= 3	HS GPA >= 2.5 and Pre-Calculus	Calculus	2,296	45%
PHY 151	ACT-M >= 19	HS GPA >= 3	HS GPA >= 2.5 and Pre-Calculus	Calculus	88	22%
CHE 103	ACT-M >= 20	HS GPA >= 3.1	HS GPA >= 2.8 and Pre-Calculus	Calculus	791	29%
CHE 104	ACT-M >= 20	HS GPA >= 3.1	HS GPA >= 2.8 and Pre-Calculus	Calculus	139	49%
MA 109	ACT-M >= 21	HS GPA >= 3.25	HS GPA >= 3 and Pre-Calculus	Calculus	3,393	42%
BIO 155	ACT-M >= 23	HS GPA >= 3.65	HS GPA >= 3.3 and Pre-Calculus	Calculus	1,496	21%
CHE 109	ACT-M >= 23	HS GPA >= 3.45	HS GPA >= 3.1 and Pre-Calculus	Calculus	828	33%
BIO 148	ACT-M >= 24	HS GPA >= 3.65	HS GPA >= 3.3 and Pre-Calculus	Calculus	1,925	23%
CHE 105	ACT-M >= 25	HS GPA >= 3.65	HS GPA >= 3.3 and Pre-Calculus	Calculus	2,890	19%
MA 110	ACT-M >= 25	HS GPA >= 3.65	HS GPA >= 3.3 and Pre-Calculus	Calculus	991	30%
MA 123	ACT-M >= 26	HS GPA >= 3.9	HS GPA >= 3.6 and Pre-Calculus	HS GPA >= 3 and Calculus	2,710	29%
MA 113	ACT-M >= 27		HS GPA >= 3.75 and Pre-Calculus	HS GPA >= 3.1 and Calculus	1,428	17%
MA 137	ACT-M >= 27		HS GPA >= 3.75 and Pre-Calculus	HS GPA >= 3.1 and Calculus	477	17%
BIO 198	ACT-M >= 30	HS GPA >= 3.9			130	11%
						0% 20% 40% 60% 80%
						% of Enrollment that is Test Optiona

Analysis



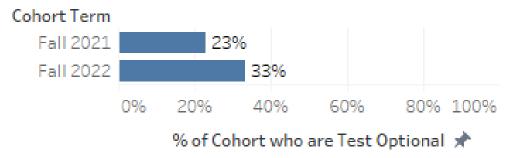
Three ways students can qualify under test optional rules

We can isolate the effectiveness of the two rule sets by looking at students who qualify for each rule set, but not the other

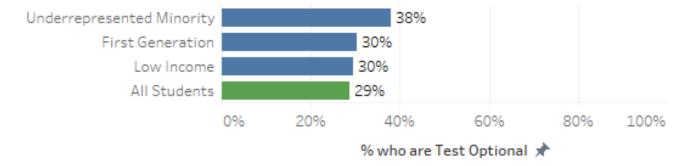


Test Optional demographic information

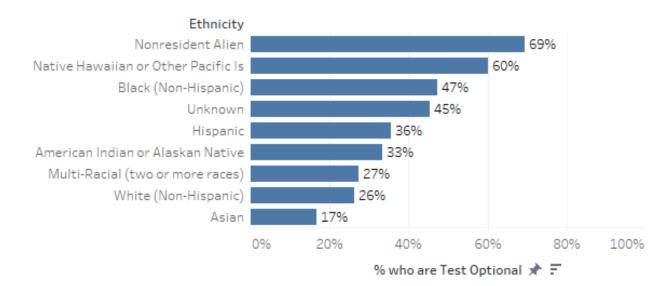
Test Optional Frequency By Cohort



Test Optional Frequency for Fall 2021, 2022 Cohorts by Subgroup

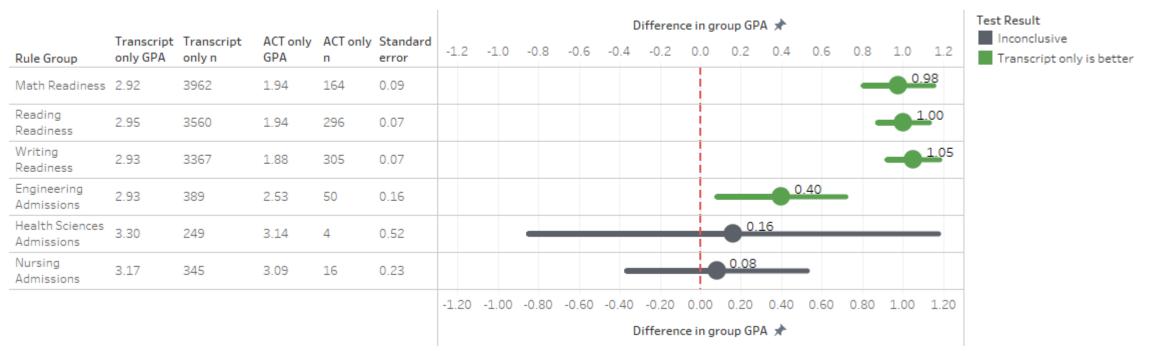


Test Optional Frequency for Fall 2021, 2022 Cohorts by Ethnicity



Admissions rules and student success

Cumulative GPA - Transcript only minus ACT only

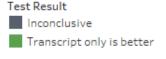


- Group differences for cumulative GPA to date for the Fall 2021 and 2022 cohorts
 - All readiness transcript rules outperform the ACT rule by at least 0.7 GPA points
 - The difference is less for Engineering Admissions but still significant

Class Prerequisite Rules and Student Success

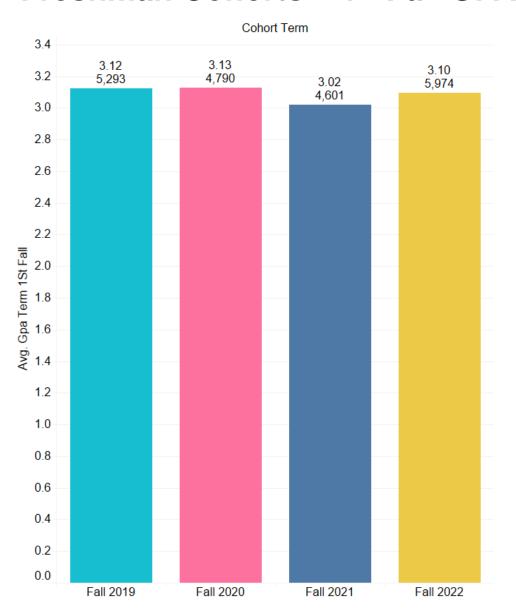
Class Grade (GPA) - Transcript only minus ACT only

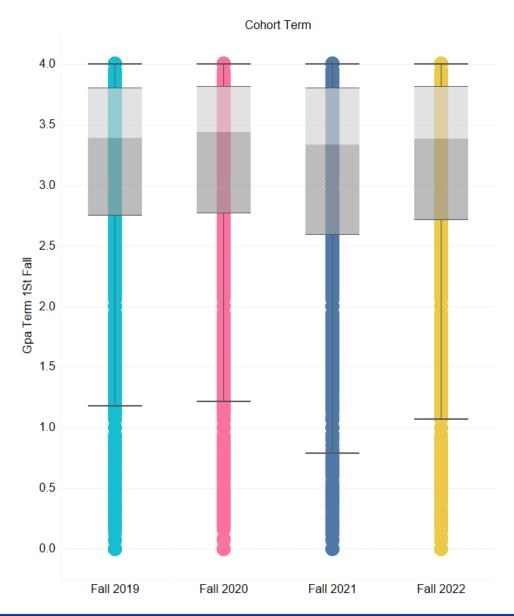
						Difference in group GPA 🖈												
Class	Transcript only GPA	Transcript only n	ACT only GPA	ACT only n	Standard error	-1.0	-0.8	-0	.6	-0.4	-0.2	0.	0	0.2	0.4	0.6	0.8	1.0
CIS 112	3.99	149	3.47	115	0.09										_	0.52	•	
WRD 112	3.85	141	3.65	127	0.09								_	0.7	20_			
MA 111	2.90	1026	2.32	87	0.16									-		0.5	8	-
CHE 103	2.22	225	2.15	13	0.46		_						•	.07				_
CHE 104	1.80	61	1.67	6	0.73		_			_			—	0.14				
MA 109	2.43	1565	1.92	224	0.10										\dashv	0.50	,	
BIO 155	3.38	333	2.95	64	0.16								-		-04	0.43	_	
CHE 109	2.10	337	1.50	46	0.21									_		0.0	50	
BIO 148	2.59	539	2.06	87	0.16									_		0.53	_	
CHE 105	2.15	855	1.72	115	0.12									_	-04	0.43		
MA 110	2.92	493	2.52	79	0.19								_		0	40		
MA 123	2.60	637	2.18	114	0.13										-0'	0.43	,	
MA 113	2.33	325	2.44	119	0.14					_		0 -0.	11	-				
MA 137	2.12	124	2.33	30	0.33		_				-0-	0.21						
BIO 198	3.85	65	3.78	9	0.18								•	.07				
						-1.00	-0.80	-0.	60	-0.40	-0.20 Diffe			0.20 p GPA >	0.40	0.60	0.80	1.00



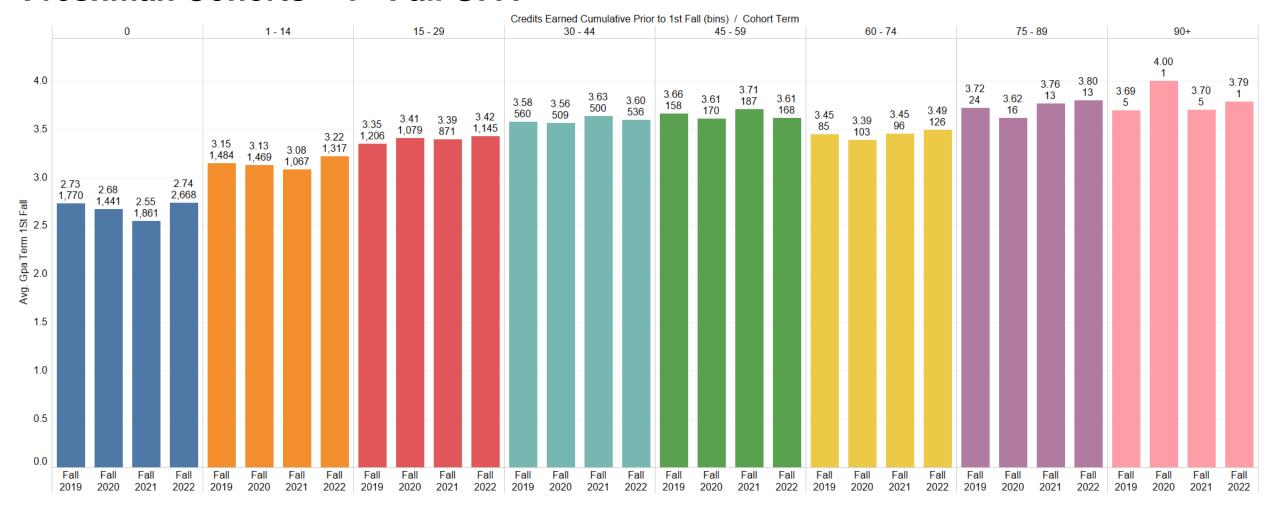
- Group differences for the ABC rate with 95% confidence intervals for Fall 2021 – Fall 2022
- All of the significant differences (10 of the 15) showed better performance for transcript only

Freshman Cohorts – 1st Fall GPA

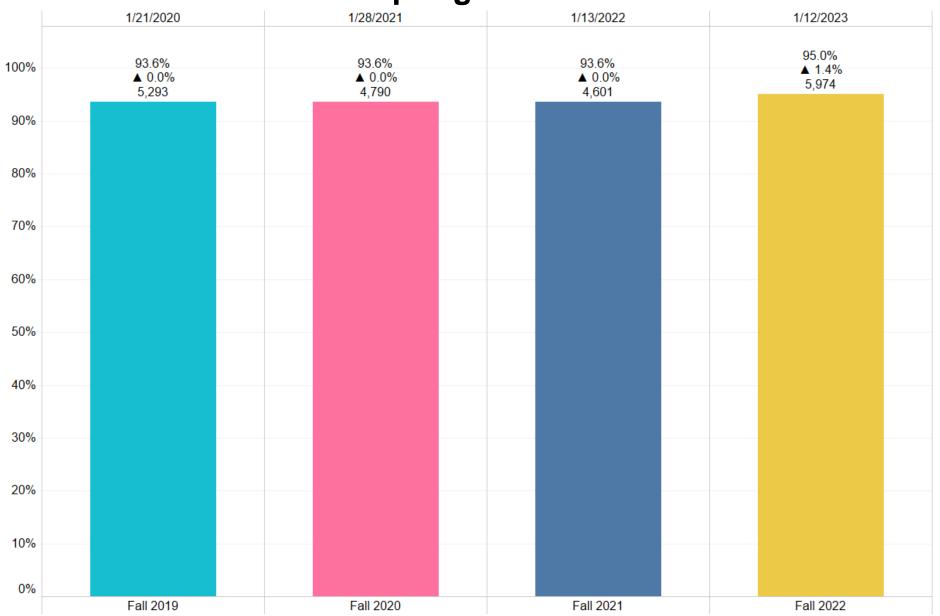




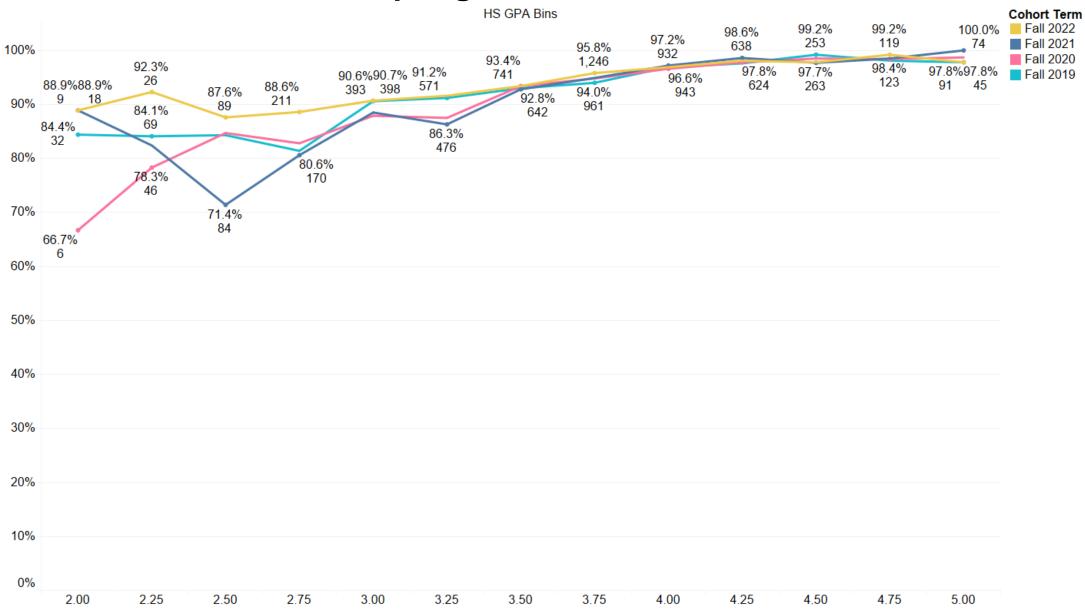
Freshman Cohorts – 1st Fall GPA



Freshman Cohorts – 1st Spring Retention



Freshman Cohorts – 1st Spring Retention



Questions

