The Problem as stated in a 2019 Wingate University Internal Report:

“There is no **end of course** test for precalculus in high schools, so content and rigor **vary widely**. Scores of 500 or better on the Math SAT and 20 or better on the ACT are very good indicators for success in most math classes, but we currently admit many students who do not achieve these minimum scores. The placement test can distinguish between those students who truly need a more introductory college math course and those who are ready for college level mathematics.”

In addition, these standardized test scores and high school GPA values may not be available at the time the course recommendation for their math class is made….

Especially Now…as the NYTimes reported on April 15, 2020:

# “*Some Colleges Are Waiving SAT and ACT Requirements”*

With high school disrupted, a growing number of schools are waiving standardized testing requirements for 2021 applicants.

<https://www.nytimes.com/2020/04/15/us/sat-act-test-optional-colleges-coronavirus.html>

One solution that many colleges/universities have found: PLACEMENT TESTS

A screenshot of a cell phone

Description automatically generated

Offered on a voluntary basis to incoming students, the scores range from 0 – 36.

115 = Precalc

112 = College Algebra

120 = Calculus

209 = Inferential Statistics Found in the current course catalog:

**Prerequisite Course Recommendations**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course** | **Criteria Group 1** | **Criteria Group 2** | **Criteria Group 3** |
| **Math 112** |  | Math SAT < 500  **AND** Placement < 20 | ACT < 20  **AND** Placement < 23 |
| **Math 115** | Math SAT ≥ 500  **OR** ACT ≥ 20  **OR** Math 112 | Math SAT < 500  **AND** 20 ≤ Placement < 23 | ACT < 20  **AND** 23 ≤ Placement < 26 |
| **Math 117**  **Math 120** | Placement ≥ 26  **OR** Math 115 | Math SAT < 500  **AND** Placement ≥ 23 | ACT < 20  **AND** Placement ≥ 26 |
| **Math 209** | Placement ≥ 20  **OR** Math 112  **OR**  Math 115  **OR**  Math 116  **OR**  Math 117  **OR** Math 120 |  |  |

The recommend courses for placement scores did change in 2019, and the concern is that students are still taking classes not suited to their level of preparation.

Data was obtained for the students who took math courses in the academic years 2017 – 2018, 2018 – 2019 and the fall of 2019.

Research Review Board approval was sought and given after I took a certification class that focused on research concerns when dealing with the confidentiality and safety of human subjects.

In all, the data consisted of two datasets with approximately N = 4400 instances. Not all students participated in taking the math placement test.

2017

1,120 took Math Placement  
 368 did not take Placement

2018

990 took Math Placement

1,151 did not take Placement

2019

989 took Math Placement

661 did not take Placement