Mc Graw Hill

ALEKS® PPL

PLACEMENT, PREPARATION & LEARNING

Case Study:

The Impact of ALEKS PPL on Student Success

at Iowa Central Community College

The Study

In the summer of 2014, Iowa Central Community College joined a statewide pilot project with the ALEKS Team to implement ALEKS PPL for math placement. With ALEKS PPL (Placement, Preparation and Learning), students complete an assessment of 25 questions or fewer that evaluates their math knowledge, and places them into courses ranging from Beginning Algebra to Calculus. Students are then instantly given the chance to improve their score by completing a personalized study plan and then can take up to 4 more assessments to improve their placement score and place higher.

This initiative aimed to improve student placement accuracy and overall retention rates. As part of the pilot, students were given up to five assessment attempts and six months of access to the Prep and Learning Modules to improve their placement outcomes.

Prior to ALEKS PPL, placement tools provided only a single score, lacking the depth to assess students' actual mathematical knowledge and areas needing improvement. ALEKS PPL, by contrast, not only assigns a placement score but also provides granular-level insights into a student's strengths and weaknesses, ensuring more accurate placement into credit-bearing math courses. The statewide initiative required Iowa Central to report placement scores, enrolled courses, and final grades, allowing a data-driven approach to measuring the impact of ALEKS PPL on student success. The following data represents the placement of math students at Iowa Central from Fall 2022 to Fall 2024, reflecting outcomes within the post-COVID landscape.

> **ALEKS PPL has allowed us to dramatically decrease our developmental math enrollment. The Prep and Learning Modules give students the opportunity to remediate and advance into credit-bearing courses."**
>
> —Professor John Hansen

Implementation Model

Iowa Central implemented ALEKS PPL with three primary goals:

- Reduce the number of students who needed to retake courses due to improper placement.
- Utilize ALEKS PPL data to improve student retention and refine course structures.
- Help students strengthen their mathematical skills through the Prep and Learning Modules, allowing them to place into credit-bearing courses sooner.

The college redesigned its developmental math sequence using insights from ALEKS PPL data, significantly reducing developmental math enrollment. STEM students are required to take the proctored ALEKS PPL assessment, while non-STEM students have the option to use either their ALEKS PPL score or high school GPA for placement.

Approximately 1,700 students take the ALEKS PPL assessment annually, either at Iowa Central's Testing Centers or through proctoring sites such as area high schools and other community college centers across the state. During the pandemic, Iowa Central temporarily removed the proctoring requirement due to restrictions on in-person testing and the high cost of remote proctoring. However, this shift led to significant discrepancies in placement scores. "When we moved away from proctoring, we saw student scores jump from an average of 15 in a proctored setting to 93 unproctored," said Professor Hansen. "At the same time, success rates in STEM pathway courses declined." In response, Iowa Central reinstated proctoring for math placement in Fall 2022, ensuring more accurate placement and restoring success rates in STEM courses to pre-pandemic levels.

> **ALEKS PPL ensures that students are placed in courses where they are most likely to succeed, which is evident in our nearly 70% pass rate for Calculus."**

Results

Since implementing ALEKS PPL, Iowa Central has seen significant improvements in student success rates, particularly in STEM pathways. Students now have greater access to personalized remediation through the Prep and Learning Modules, leading to better outcomes in their respective courses.

One notable success is the high pass rate among students placed into Calculus (MAT-210) through ALEKS PPL:

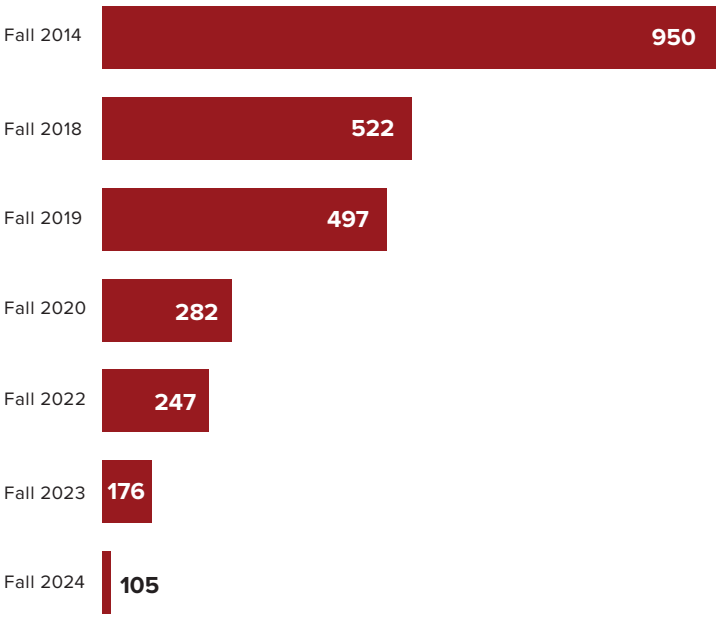
- 68% pass rate (A, B, C grades)
- 19% fail rate (D, F grades)
- 13% withdrawal rate

The high pass rates demonstrate how accurate placement enhances student performance in rigorous coursework. Several students who took precalculus in high school initially did not place into calculus. However, after spending time in the Prep and Learning modules, they successfully improved their placement and enrolled in Calculus (MAT-210)—a pattern seen consistently over the past several years.

In addition to success in STEM pathways, ALEKS PPL has significantly reduced the number of students required to take developmental math (Figure 1).

Figure 1

Students Enrolled in Development Math.



Prior to ALEKS PPL, from 2010-2016, students with a cut score, or placement score, of 21 followed a traditional developmental math pathway requiring them to complete 8 credits (Fundamentals of Math, Elementary Algebra, and Intermediate Algebra), costing $1,680 over two semesters. With the redesign using ALEKS PPL from 2017-2022, students completed 6 credits at a cost of $1,260 over two semesters. Currently, students with the same score of 21 are placed into the corequisite pathway (2023-present), requiring a minimum of 5 credits and costing $1,050 for one semester. This shift saves each student over $600 annually (Figure 2).

This reduction directly impacts student costs, as developmental math courses do not count toward degree requirements. By shifting students into credit-bearing courses faster, ALEKS PPL has helped students save money and reduce time to degree completion.

"Since implementing ALEKS PPL, we have drastically reduced our developmental math enrollment, saving students both time and money on their degree journey," said Professor Hansen.

Over the past decade, Iowa Central has continuously refined its developmental math placement process, with the most recent adjustment implemented in Spring 2023. Currently, students with an ALEKS score below 19, or a high school GPA under 2.0, are placed into the developmental math course. Data from the past three semesters (Spring 2023, Fall 2023, and Spring 2024) indicates that more students have opted to use their high school GPA rather than taking the ALEKS assessment (Figure 3). "To encourage accurate placement, starting in Fall 2024, all students will take the ALEKS PPL on their first day. If they score higher than their initial placement, they will be moved to the appropriate course," said Professor Hansen.

Furthermore, Iowa Central has implemented a corequisite model for statistics and math for liberal arts courses, with a 57% pass rate. This means that 57% of students who would have previously been placed in developmental math have instead successfully completed their required math courses without remediation.

Figure 2

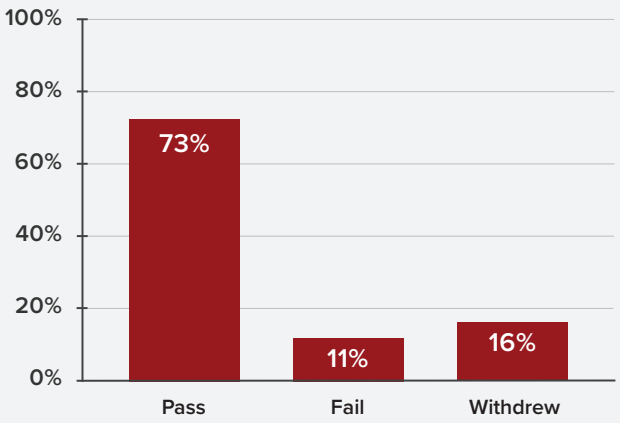
Student Cost Over 2 Semesters

Without ALEKS PPL 2010–2016	$1680/8 credits
With ALEKS PPL 2017–2022	$1260/6 credits
With ALEKS PPL 2023–2025	$1050/5 credits

Figure 3

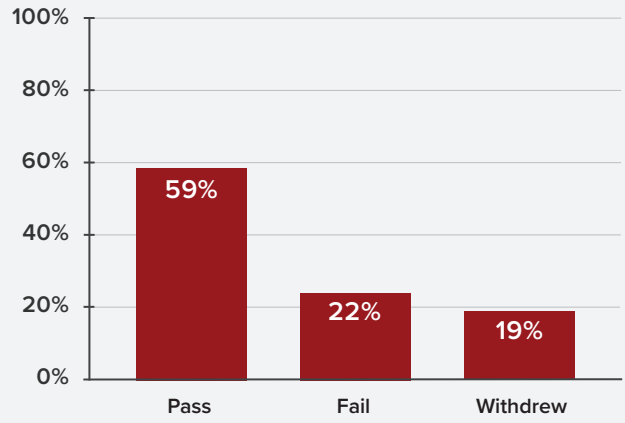
Developmental Math using ALEKS PPL

Number of students: 132



Developmental Math non-ALEKS PPL

Number of students: 396



Pass = A, B,C Fail = D,F,W

Conclusion

ALEKS PPL has fundamentally changed the approach to math placement and student success at Iowa Central Community College. By accurately assessing student readiness and providing personalized learning modules, ALEKS PPL has:

- Increased student success rates in college-level math courses.
- Improved student retention and engagement, particularly in STEM pathways.
- Reduced student costs and time spent in developmental math courses.

Through its data-driven placement and learning approach, ALEKS PPL has proven to be more than just a placement tool—it is a transformative solution for student success in mathematics.

Get In Touch

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Instructor Bio

John Hansen is the Academic Dean at Iowa Central Community College. He earned undergraduate degrees in Mathematics and Computer Science from Augustana College in Sioux Falls, South Dakota, in 1984. He then pursued a master's degree in Mathematics from South Dakota State University in Brookings, graduating in 1987.

Hansen began his tenure at Iowa Central Community College in 1991 as a faculty member, teaching both mathematics and computer science courses until 2017. Since then, he has served as Academic Dean, overseeing multiple departments, including Mathematics, Science, Engineering Design Technology, Computer Networking Technology, Veterinary Technology, Health Sciences, Social Sciences, Education, Psychology, and Human Services. His leadership has played a pivotal role in the implementation of ALEKS PPL and the subsequent improvements in student success and retention at the institution.

