Ad Astra

2024 Benchmark Report

Analysis of the relationship between scheduling effectiveness, student progress, and completion

FOREWARD

Rethinking time as the enemy of completion

In 2012, Complete College America founder Stan Jones famously declared to Congress that time was the enemy of college completion. Jones blamed higher education for doing virtually nothing to adjust to the evolving needs of their students, who were working long hours to pay tuition and household bills. As a result, they were taking longer to complete college — if they were even finishing at all.

A dozen years later, our nation has made slow and uneven progress on the college completion front. Though more American adults than ever before hold college degrees, only 62% graduate within six years of enrolling.

Work gets in the way for many students, who must hold jobs so they can afford college. Nearly 40% of students attend college part-time so they can work, but only about 1 in 5 enrolled exclusively part-time earn degrees within six years. A new research study has found working 20 or more hours weekly has "significant and deleterious effects" on grades, persistence, and credits earned. These effects are most pronounced at community colleges, where nearly 30% of students work at least 30 hours per week and only 17% of all students graduate within two years.

As this new report from Ad Astra lays out so succinctly, U.S. colleges and universities continue to struggle to help their students make sufficient progress toward their degrees. The student success movement has raised awareness that higher education must be a partner in retaining and graduating students and closing outcome gaps between different populations of learners. But what demands our attention today are the structures and pathways required to ensure timely college completion.

Ad Astra is bringing to bear new data on precisely the right issues that will help us be smarter about confronting barriers and utilizing technology in scaling solutions to college completion.

This report reaffirms that colleges and universities should respect students' time and steward it well by building predictable yet flexible schedules that allow students to earn credits at an efficient and consistent pace while navigating school, work, family and other life commitments. It also reminds us that state policymakers must develop sound and sustainable funding formulas that help institutions reach their attainment targets while acknowledging the interrelations among affordability, the need to work, the ability to take enough credits to graduate, and graduation itself.

Today, time remains the enemy — but we are finally starting to understand what exactly that means. We know there's an urgent need to move faster: By 2031, nearly three-quarters of all U.S. jobs will require education or training beyond high school. But with an intentional commitment to an integrated approach to course scheduling, advising, and learner support that can improve student outcomes, we can significantly move the needle on college completion.

CHARLES ANSELL
Vice President for Research, Policy and Advocacy
Complete College America

COMPLETE
COLLEGE
AMERICA

About this report

Populations analyzed

1.3 million total students

340k students disaggregated by equity groups

All students, not just full-time/ first-time students

Students from 2-year public, 4-year public, and 4-year private institutions

Review of progress for students' **entire academic career** (up to 10 years)

Student progress is a critical driver of college retention and completion rates. Yet it is an area in which higher education continues to struggle. Specifically, course schedules are often a barrier — not a clear path — to timely completion.

Since 2008, Ad Astra has analyzed key data from our partner institutions with the goal of providing insights for course scheduling improvement, including the use of the Higher Education Scheduling Index (HESI)® to benchmark 420+ institutions on scheduling effectiveness. We found the data supported our hypothesis that course schedules significantly impact students' time to completion but until now, we've lacked direct evidence of correlation.

Knowing time is the enemy of college completion, we expanded our analysis and benchmarking efforts by tapping into more robust data from a subset of partners, attempting to answer this key question: **What is the relationship between students' academic degree progress, retention, and completion?**

Ad Astra leveraged our patented predictive analytics framework to identify triggers for substantial enhancements in retention and completion rates across partner institutions. The benchmark and longitudinal analysis pinpointed effective strategies, emphasizing the progress of certain institutions using integrated academic planning and course scheduling.

The report encourages institutions to reassess the conventional classification of students as full-time or part-time, urging instead a focus on the nuanced distinctions within these categories. Recognizing a correlation between retention rates and credit hour load, the report raises essential questions about the possibility of students taking an additional course and its potential impact on retention and completion, particularly for underrepresented groups. By exploring these questions, the report offers valuable insights on how to help students make sufficient progress toward their degrees by outlining opportunities for institutions to enhance student outcomes through integrated planning.

Key results

7%

probability of graduating
when students complete
11 or fewer credits per year

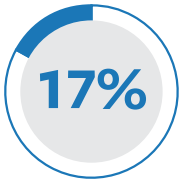
Students completing 18-23 credit hours per year are

2x more **likely to be retained**

7x more **likely to graduate** than students completing 11 credits or fewer per year

of degree-seeking students are in blocked Completion Paths

of Completion Paths have financially unsustainable enrollment levels



more lifetime credits are earned if students take one more course each term

of students increase their course loads, compared to their first year, indicating the capacity to flex, if needed

Table of contents

2 **FOREWARD**

3 **ABOUT THIS REPORT**

4 **KEY RESULTS**

6 **SECTION 1: RETHINKING STUDENT PROGRESS**

+ New approach to measuring student progress
+ The role of progress in student outcomes
+ The relationship between progress and equitable outcomes
+ The impact of taking one additional course
+ Spotlight on effectively managing student progress

12 **SECTION 2: RETHINKING FLEXIBLE SCHEDULES**

+ Flexibility without design = chaos
+ Predictable flexibility
+ The opportunity of term duration
+ Spotlight on effectively managing flexible schedules

17 **SECTION 3: RETHINKING FINANCIAL SUSTAINABILITY**

+ Analyze contribution margin
+ Follow the student
+ Offer only sustainable Completion Paths
+ Strategically manage academic program pathways
+ Focus on retention to increase tuition revenue
+ Spotlight on effectively managing financial sustainability

20 **SECTION 4: LEVERAGING THE HIGHER EDUCATION SCHEDULING INDEX (HESI®) TO RECLAIM EFFECTIVENESS**

+ Underutilized course ratio
+ Off-grid scheduling waste
+ Prime-time compression
+ Prime-time space utilization
+ Spotlight on effectively managing schedule effectiveness

23 **CALL TO ACTION**

+ Prioritize progress in student success strategies
+ Introduce flexibility into the schedule strategically
+ Ensure financial sustainability through student-centered schedules

SECTION 1

Rethinking student progress

RETHINKING STUDENT PROGRESS

Perhaps the most fundamental finding of this study **challenges the traditional way of thinking and talking about progress**. The data shows that higher education needs to reframe the way student progress is analyzed.

NEW APPROACH TO MEASURING STUDENT PROGRESS

The findings in this report raise the question of whether traditional, monolithic **part-time** and **full-time** categories can describe progress appropriately to support student success initiatives. Specifically, Ad Astra found it more helpful to break students traditionally viewed as part-time into **three categories** and full-time students into **two categories**. Below are the aggregated findings of the study by progress band.

Traditional	Average Term Credits	Annual Credits	Retention (y-o-y)	Completion
Part-time	1-5	1-11	29%	7%
	6-8	12-17	53%	26%
	9-11	18-23	68%	50%
Full-time	12-14	24-29	74%	62%
	15+	30+	78%	73%

DEGREE VELOCITY®: PROGRESS BANDS BY PACE

When you think of pursuing a degree in terms of velocity, these new progress bands emerge:

THE ROLE OF PROGRESS IN STUDENT OUTCOMES

Substantive differences in retention and completion rates, seen above, are masked if we continue to think about progress in the simpler, traditional way. Specifically, we saw a 2x difference in the likelihood of students being retained and a 7x difference in completions between part-time students who were “walking” versus “jogging.”

Continued, productive progress to completion — which we call Degree Velocity® — must be a focus informing student success interventions. Many students have the capacity to accelerate progress. Overall, 27% of students we analyzed moved to a higher progress band during their academic careers (compared to their first year). This study shows systematically nurturing accelerated progress — in the form of early momentum and ongoing Degree Velocity® — generates profound effects on retention and completion.

Our traditional student progress bands (part-time and full-time) obscure drastically different predicted outcomes between our suggested bands. For example, retention and completion rates of the students we studied, broken out by part-time/full-time, are 53% v. 76% for retention and 30% v. 66% for completion. These aggregated findings hide the fact that part-time students who were **jogging** versus **walking** are 7x more likely to graduate.

More troubling is that student progress is viewed as less of an actionable opportunity when measuring progress with the traditional bands. A two-year institution with students completing an average of 15 credits a year often views getting most of their students to full-time as unrealistic. This, of course, takes the focus off the realistic and compelling opportunity to get many students to move from **speed walking** to **jogging** — and in the process almost doubling their odds of completion.

How many students would enroll if they knew they only had a 7% chance of success? The more nuanced analysis of student progress presented above highlights a scary reality: if a student doesn't complete 12 credits or more a year, it's very unlikely they'll graduate.

This outcome may not come as a surprise. Busy, resource-strapped students can't be expected to grind through six years to get an associate degree or ten years to get a bachelor's. That's why **a full 71% of students in the walking category don't continue past their first year.**

Many institutions — especially those categorizing all part-time students as one group — don't analyze progress in ways that allow them to see this problem. Also, others don't think of this as a problem, arguing some students only have the capacity to take very light loads. We believe targeted advising should focus on the goal of students taking one more course each semester to move up a progress band.

We believe smart planning, scheduling, and targeted advising should focus on the goal of students taking one more course each semester to move up a progress band.

Students completing 11 or fewer credits per year:

7%

probability of graduating

THE RELATIONSHIP BETWEEN PROGRESS AND EQUITABLE OUTCOMES

Higher Education continues to rally around the mission of equitable student outcomes. Accordingly, we analyzed progress and outcomes for BILPOC (Black, Indigenous, Latinx, People of Color) students compared to their institutional peers. For 70% of institutions analyzed, BILPOC students were more likely to be in the lower, part-time progress bands than their peers. At these same institutions, gaps in retention and completion rates were also more significant.

Credits Completed, retention, and completion rates at select institutions

Students	Successful Annual Credits	Retention (y-o-y)	Completion
BILPOC	15.6	63%	34%
Non-BILPOC	17.9	68%	41%
Gap (in %)	15%	9%	21%

These findings demonstrate the need to focus on student progress as a key lever to eliminate institutional performance gaps. Complete College America, in their ***August 2022 brief "Part-Time Students Must Be a Full-Time Priority"***, endorsed by the Department of Education, asserts the following: "The higher education system was built for traditional, straight-out-of-high-school, financially dependent, predominantly White students. Its structures and policies make attending full time nearly impossible for the students with the fewest resources, who are disproportionately BILPOC students."

Meeting the needs of today's diverse student population requires new levels of intentionality and strategy. This realization led Complete College America to include ***Smart Schedules*** as an essential component within their ***Structure*** pillar. Building an infrastructure that includes smart schedules is increasingly becoming table stakes for those pursuing equitable student outcomes.

SPOTLIGHT ON EFFECTIVELY MANAGING STUDENT PROGRESS

GERMANNA COMMUNITY COLLEGE

Locust Grove, VA

When Germanna Community College fully revised its scheduling approach to better serve its students, the team began by looking at the data. A careful review allowed Germanna to see program growth/retraction, eliminate unnecessary prerequisites, and remove bottlenecks. The course-by-course analysis also helped predict which classes students needed for their first year of college. Combined with thorough pathway revisions, Germanna was empowered to create schedules that better matched student demand. Finding success in the process and buoyed by top-down support, Germanna is now able to create an annual schedule that allows students to register for four academic terms.

RESULTS

15% Increased Degree Velocity®

4.9% Decreased time-to-degree

12.2% Increased productive credit hours

21.5% Decreased credits-to-degree

THE IMPACT OF TAKING AN ADDITIONAL COURSE

Outcomes are dramatically better when students complete one more three-credit course per major term (moving them up a progress band). Our experience is that this approach can elicit questions and concerns from various stakeholders. Specifically:

- **Do students want to take another course?**
- **Would they want to if they understood the long odds of completion at their current pace?**
- **Is another class reasonable for the growing number who work 30+ hours and take care of family members at home?**
- **Would taking another course increase DFW rates for those students?**
- **Can students afford to take another course?**
- **Does the course schedule allow them to take a fuller load?**

We cannot conclusively answer these questions in this study. We do, however, highlight signals in the data suggesting many students will elect to take fuller schedules if they are in an environment that supports and promotes this endeavor. As stated above, 27% of the students we studied moved to a higher progress band during their academic careers, compared to their first year.

SECTION 2

Rethinking flexible schedules

SECTION 2

RETHINKING FLEXIBLE SCHEDULES

Recently, we've seen much written about the need to provide today's students "flexible schedules." This is typically a response to the **complicated lives** of many students pursuing degrees today. The COVID pandemic accelerated this conversation, compelling institutions to adopt more agile approaches to course offerings.

FLEXIBILITY WITHOUT DESIGN = CHAOS

Today's students, who often juggle work, school, and family commitments, need predictable schedules to balance the demands of their busy lives. Providing predictable schedules is a complex optimization problem, one few institutions have effectively solved. If we've learned anything over the past 28 years of helping institutions build schedules it is this: predictable, student-aligned schedules are impossible to produce without intentionality, data, and design.

By failing to provide consistent, reliable schedules, institutions create unintended barriers for their students. Perhaps the most sobering finding in this study is that more than half (57%) of the students analyzed can't complete their degree without a major detour.

The good news is institutions can make significant progress with intentionality, data, and design. Several of the institutions in this study have reduced the number of students in blocked completion paths to fewer than 30%.

57%

of students are in blocked completion paths

PREDICTABLE FLEXIBILITY

Design and multi-year, data-informed scheduling can create predictable flexibility for students. It allows institutions to keep the completion promises they implicitly make to students. Keeping completion promises means students can start and finish their academic program without the need to change modalities, locations, or the times when they take their courses from term to term.

While COVID proved all students ***can*** flex to online, multiple studies have shown they were often less successful (based on the percentage of unsuccessful attempts). The "how" decisions (location, time, modality) have become as complex and important to student progress as the "what" decisions (course offering mix).

We refer to the primary approach students take in completing their courses as **Completion Paths**. A Completion Path is the combination of modality, location, and time of day chosen by students. For example, in-person classes on the main campus during daytime hours would constitute a Completion Path that many academic programs would need to support.

> Design and multi-year, data-informed scheduling can create predictable flexibility for students. It allows institutions to **keep the completion promises** they implicitly make to students.

In the wake of the pandemic, the number of Completion Paths offered to students markedly expanded. The average academic program now tries to support 4.05 Completion Paths. While motivated by a sincere desire to provide students flexibility, this surge creates two significant negative effects.

UNINTENDED CONSEQUENCES OF FLEXIBILITY WITHOUT DESIGN

1 Fewer clear paths to complete an academic program

Course scheduling is a zero-sum game. It is impossible to adequately support a robust portfolio of academic programs in multiple new ways with constrained resources. As a result, many Completion Paths are missing multiple course requirements that are never offered that way. We call these **Blocked Completion Paths** because they require students to reorganize their lives to complete an academic program. Overall, our study found 71% of the Completion Paths offered are blocked because they are missing requirements, affecting 57% of degree-seeking students. An additional 17% of Completion Paths are partially blocked, requiring students to flex to online.

2 Many Completion Paths are not financially sustainable

The fragmentation of enrollments motivated by flexible scheduling has come at perhaps the worst time with many institutions experiencing enrollment declines. Academic programs with low enrollments are becoming financially unsustainable as institutions try to offer them in three, four, or even five different ways to attract new students. We consider a Completion Path with fewer than 20 students unsustainable because it is unlikely that a required course, unless shared with other academic programs, would have sustainable registrations. Our study found 78% of the Completion Paths have unsustainable enrollment levels, many of which are being financially subsidized. It is better to fully support fewer Completion Paths than offering a few courses in various, random ways.

THE OPPORTUNITY OF TERM DURATION

Many institutions, especially two-year public institutions, are embracing a shorter academic term option for their students. Shorter terms allow students to make full-time progress while taking fewer courses at the same time. For example, they can stack two courses each 8-week term instead of four courses during a 16-week semester. Institutions aggressively moving to this model are seeing promising outcomes. Course loads and DFW rates improve, leading to better overall progress and outcomes. We are evaluating term duration as another dimension of Completion Paths. While this study does not include a finding relative to the impact of term duration on Completion Paths, we are confident our overarching finding on flexibility applies. Namely, shorter terms should be introduced with intentionality, research, and design to ensure predictable paths for students and financial sustainability for academic programs.

SPOTLIGHT ON EFFECTIVELY MANAGING FLEXIBLE SCHEDULES

ODESSA COLLEGE

Odessa, TX

Launched in 2014, the successful implementation of 8-week terms at Odessa College sought to reduce time to degree without increasing costs. The shift from 16- to 8-week terms was driven by a commitment to flexibility, particularly for students tied to the oil and gas industry. The transition was eased by an institutional investment in a student-centric culture, which included a strategic drop-rate improvement plan. Data-driven decision-making, effective communication, and internal collaboration played key roles in the successful implementation of the 8-week academic calendar.

RESULTS

13% increase in overall enrollment

26% increase in FTE enrollment

2x growth in completion rates to 42%

SECTION 3

Rethinking financial sustainability

SECTION 3

RETHINKING FINANCIAL SUSTAINABILITY

Strategic management of low-enrollment academic programs can dramatically improve financial sustainability. Most institutions review their academic programs every few years, and this process often focuses on important health markers such as instructional cost, enrollments, retention, and completion rates.

Low-enrollment programs are difficult to resource efficiently. For that reason, most assume recruiting more students should be the focus. Today's enrollment climate and the findings below challenge that assumption. We recommend considering the following data-informed strategies to improve financial sustainability:

1 Focus on retention to increase tuition revenue

The retention impact of accelerated progress has an undeniable impact on tuition revenue. Students generate more tuition revenue each term and are retained at a higher rate. **A student yields, on average, 17% more tuition revenue** in their academic careers if they take one more course a semester, according to our study.

2 Analyze contribution margin

Measuring both tuition revenue and cost creates a much clearer picture of financial health. When solely measuring costs, the only strategy for improvement is to cut costs. Contribution margin informs Completion Path and pathway design decisions in ways that cost analyses cannot.

17%

increase in lifetime credits by adding **3 more credits** of progress per semester

SPOTLIGHT ON EFFECTIVELY MANAGING FINANCIAL SUSTAINABILITY

BRIGHTPOINT COMMUNITY COLLEGE
Chester, VA

Brightpoint Community College analyzes the enrollment health of each credential to increase completions and efficiency. In addition to eliminating chronically low-enrolled courses, they plan to develop and market Completion Paths for each program. These Completion Paths will define the modality, location, semester, and times courses in each program will be offered for the next several semesters. This work is part of a broader effort to produce educated workers in high-demand fields such as healthcare, information technology, and manufacturing.

3 Follow the student

We advocate a "follow-the-student" approach to allocating tuition revenue and instructional cost. For example, an introductory Biology course may have equal numbers of students taking it for a general education option along with those taking it as a program requirement. Allocate the tuition, cost, and resulting margin proportionately to the academic programs based on the students enrolled in those courses. That way, you have a holistic view of the health of your programs in addition to individual courses or departments.

4 Offer only sustainable Completion Paths

On average, **51% of all degree-seeking students are pursuing degrees in an institution's five most popular programs.** Yet these programs only make up 7% of all programs at an institution. This underscores a need to prudently manage lower-enrollment programs, which typically make up most of an institution's portfolio. Institutions with limited Completion Paths in low-enrollment academic programs stand a much better chance of sustaining those programs. Resist the urge to chase enrollments in unpopular Completion Paths for those programs.

5 Strategically manage academic program pathways

Institutions that reduce unsustainable course choice and intentionally leverage course sharing between academic programs can favorably impact their bottom line. These approaches are especially vital for smaller institutions wishing to preserve a broad portfolio of academic programs.

SECTION 4

Leveraging the Higher Education Scheduling Index (HESI®) to reclaim effectiveness

LEVERAGING THE HIGHER EDUCATION SCHEDULING INDEX (HESI®) TO RECLAIM EFFECTIVENESS

Several findings in this study highlight how schedule flexibility without data, design, and discipline to follow best practices can produce negative effects. For years, Ad Astra has benchmarked institutions on schedule effectiveness using the **Higher Education Scheduling Index (HESI®)**. Since Fall 2019, the following HESI® metrics have shown significant regression:

Underutilized course ratio (41% to 45%)

This metric, widely embraced by our partner institutions as a key indicator of course scheduling effectiveness, now shows that almost half of the courses an institution offers are underutilized. Only 33% of the courses are balanced with student demand.

Off-grid scheduling waste (12.3% to 12.6%)

Systematic management of offering times enables students to get fuller, conflict-free schedules. It is also a necessity to maintain high prime-time classroom utilization. Today, almost 13% of the theoretical prime-time capacity, both for students and for classrooms, is wasted by off-grid meeting pattern usage. Note this modest increase in waste occurred while the overall number of sections offered, and the percentage offered on ground both declined.

Prime-time compression (67% to 83%)

At most institutions, a high percentage of faculty like to teach from 10 am to 2:00 pm Monday through Thursday. While the prime-time hours vary from institution to institution, the trend to compress activities into those hours is pervasive. Prime-time compression with high levels of off-grid scheduling is a dangerous combination for students needing to make productive progress and institutions needing to effectively utilize their classrooms. These factors necessitate greater collaboration between academic departments and orchestration of their schedules to ensure students can get full, conflict-free schedules

Prime-time space utilization (63% to 52%)

Lower space utilization tends to inadvertently lead to more off-grid scheduling and more prime-time compression. If those pitfalls can be avoided, it also removes a constraint from creating full, compact schedules that today's busy students need. Once again, it's important to realize this opportunity requires higher levels of data, design, and discipline than many institutions currently employ in their planning and scheduling processes.

SPOTLIGHT ON SCHEDULE EFFECTIVENESS

GEORGIA NORTHWESTERN TECHNICAL COLLEGE

Rome, GA

During the pandemic, Georgia Northwestern Technical College (GNTC) sought to revamp manual scheduling processes across its six-campus institution. GNTC worked closely with Ad Astra to implement the background work necessary to build a strong scheduling foundation. This included conducting an inventory of academic spaces, identifying scheduling bottlenecks, and solidifying pathways, or e-maps, across all its campuses. Using the Higher Education Scheduling Index (HESI®), the college realized it had too many sections and students were spread too thin.

Additionally, heat map reports allowed the college to see where most students were registered and highlighted additional classes students could take during the same day. These findings prompted the college to add Friday classes along with evening options for core Gateway classes beyond its traditional Monday-Thursday schedule. New telepresence technology also allowed GNTC to offer live classes synchronously, permitting students to stay closer to their home campus, attend classes in a face-to-face setting, and complete core classes in a timely manner.

RESULTS

9.8% growth in Fall 2023 enrollment compared to Fall 2022

Call to action

Smart planning and scheduling can empower your institution to keep its promises to students and maintain financial sustainability. While this is hard work, and likely a departure from the traditional way of doing things, the findings of this report demonstrate it's worth the effort. **We encourage you to consider the following.**

1 Prioritize student progress in your student success strategy by:

+ Measuring and discussing student progress frequently and in a nuanced way that informs student success interventions
+ Assessing the progress of all students each major term as a leading indicator of retention and completion
+ Developing targeted interventions that nudge students to take one more course a semester, especially those in the lowest progress bands
+ Engaging and orchestrating stakeholders and their initiatives across the institution to create clear completion paths for students
+ Disaggregating progress metrics for historically marginalized or at-risk populations to ensure they are given access to schedules that enable dramatically improved outcomes

2 Introduce flexibility into the schedule strategically by:

+ Analyzing the distribution of sections — in your general education core and in required courses for each program — by modality, location, time-of-day, and term duration
+ Determining the relative popularity of various Completion Paths for each academic program
+ Accounting for instructional capacity when introducing new ways to offer academic programs and required courses
+ Developing strategies for how each program is offered and structures to support clear Completion Paths

3 Ensure financial sustainability through student-centered schedules by:

+ Leveraging accelerated student progress to optimize tuition revenue from existing students
+ Analyzing tuition revenue in addition to instructional cost
+ Evaluating margin by academic program
+ Strategically managing academic programs based on enrollments and student needs

PARTNERS IN SUCCESS SINCE 1996 I SERVING 550+ CAMPUSES WITH 4.5M STUDENTS

Ad Astra is the trusted partner of colleges and universities committed to graduating more students faster. Through data-informed planning and course scheduling, we empower institutions to efficiently remove barriers to completion while also ensuring financial sustainability.

Learn more at aais.com »