EAB

Promoting Timely Degree Completion

Reconciling Student Choice and the Four-Year Graduation Imperative

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Executive Summary

Promoting Timely Degree Completion

Moving the Goalposts: Shifting the Focus from Six- to Four-Year Graduation

Fewer than 40% of bachelor's degree-seeking students graduate within four years. While approximately two-thirds of the problem is attrition-related, the other third is related to progression delays, with approximately one in three graduating students taking between four and six years to complete their degrees. This is cause for concern because the financial consequences of added time-to-degree are substantial, amounting to thousands of dollars in added student loan debt and thousands more lost in potential wages.

Linking state financial aid to on-time progression impacts students at publics and privates. States legislatures have realized the potential savings (to students and institutions) from on-time graduation and are piloting initiatives that link performance-based funding to timely progression and four-year graduation metrics. Some states have gone so far as to make the renewal of state financial aid contingent on credit completion benchmarks, which could adversely impact students attending both public and private institutions. Should colleges and universities fail to prepare their students for timely degree progression, the lost aid could pose a financial attrition risk to those affected.

Timely completion promotes college affordability. Conversations around student loan debt further drive the heightened focus on four-year graduation. In the last decade, student debt has risen to critical levels that have had demonstrable negative and immediate impacts on the return on education experienced by graduates. As state financial support remains constrained, and affordability and rising loan burdens weigh heavily on students and families, institutions are looking to timely graduation as a near-term solution to the financial burden of college.

Many Causes of Graduation Delays Are Preventable

Complex degree pathways and capacity constraints often add time-to-degree. Unguided student choices around major and course selection, as well as institutional impediments, such as capacity constraints and unaccommodating course scheduling can come together in a series of incidents that add up to a six-year degree. While institutions understandably struggle to systematically support students through disruptive, unpredictable life events and financial hardship, small, unintended delays can be prevented or overcome by retooling existing resources.

Institutions can strike a balance between academic exploration and timely completion. Skeptics of the on-time graduation agenda are wary that efforts to scale timely completion efforts and simplify complex degree requirements could come at the expense of academic rigor and student exploration. While some have experimented with or even advocated for a streamlined approach to degree completion, early evidence suggests that most students and institutions reject the notion of watered-down content and restricted choice. Rather, a balanced approach to on-time completion attempts to make more room for exploration and challenging content by minimizing preventable delays to degree progression.

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Executive Summary (cont.)

Promoting Timely Degree Completion

Key Questions	Conventional Wisdom		EAB Research Insight
Can we minimize progression gaps for at-risk groups?	At-risk students will be overwhelmed by added coursework	→	With added support, at-risk students can succeed when expectations are raised
Can we steer students to productive credits while preserving exploration?	Timely progression at scale requires prescriptive degree maps and restricted choice	→	Early guidance increases opportunities for exploration by reducing time lost from uninformed student choice
Can we ensure seat availability without costly excess capacity?	Current schedule-setting practices are the most convenient for faculty	→	Use of easy-to-obtain data improves convenience of course scheduling for students and faculty
Can we provide flexible four-year pathways without lowering standards?	Added time-to-degree is the price of exploration or underpreparedness	→	Alternative and/or accelerated term options increase rigor while providing "catch-up" opportunities

Supporting On-Pace Student Performance

Encourage early credit momentum. Despite the success of four-year graduation campaigns and incentives, barriers to a full course load persist for many incoming students, especially those with compound attrition risk factors such as academic underpreparedness or financial need. Through behavioral nudges, credit-bearing pre-orientation programs, and a focus on redesigning critical introductory courses, universities can support all students in their progress toward 30 credit hours in their first year.

Maximize degree-applicable credit. Many students graduate with more academic credit than necessary to complete a degree. Though exploration and enrichment are central to the mission of any university, facilitating structured course and major selection helps ensure that we never unintentionally set students back in their progress. Heightened attention to upper-division curricular barriers is also critical to reduce late-stage graduation delays and attrition.

Organizing Course Offerings Around Four-Year Graduation

Align course capacity with student needs. Laying the groundwork for early credit momentum and guided, intentional exploration is only the first step. To ensure that we deliver on these promises to students, universities must closely examine term-by-term course offerings and integrate students' long-term degree planning into capacity management and registration practices. Policy and process guardrails help ensure sufficient time to proactively and retroactively adjust the slate of course offerings and reduce delays due to seat unavailability.

Create second chances for off-pace students. A failing grade or course withdrawal can set students back in their progress one term or more, while increasing the risk of financial attrition when students lose full-time status. Creating more flexibility within the academic calendar both between and within regular academic terms allows students to stay on track to graduate on time after a missed course.

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Supporting Members in Student Success

EAB Research to Set Student Retention, Progression, and Completion Strategy

A Student-Centered Approach to Advising

Redeploying Academic Advisors to Create Accountability and Scale Personalized Intervention

This white paper explores the evolving role of advisors in addressing student retention and completion. Two in-depth case studies illustrate how caseload-based success coaching and data-driven risk modeling can dramatically improve outcomes.

Guiding Student Choice to Promote Persistence

Tools, Technologies, and Policies That Support Retention and Timely Completion

This best practice study applies the concept of choice architecture to student success, outlining how subtle policy changes and self-service tools can encourage better decisions among students.

Hardwiring Student Success

Building Disciplines for Retention and Timely Graduation

Our original and most comprehensive study on student success, this report discusses the structure of early alert systems, intervention strategies, and policies to improve time-to-degree.

Defining the Faculty Role in Student Success

Building Ownership for Student Progression Among Individual Faculty and Distributed Academic Units

This study profiles models for faculty-led reform to reduce curricular barriers and target advising and mentoring toward disengaged students.

Next-Generation Advising

Building Disciplines for Retention and Timely Graduation

This study profiles strategies to structure student course and major decisions, personalize advising support, and integrate career and academic advice.

Academic Policy Audit

Building Ownership for Student Progression Among Individual Faculty and Distributed Academic Units

This toolkit provides diagnostics and resources to address academic rules, regulations, and processes that can create unnecessary obstacles for students.

Incentivizing Behavioral Change with Aid Dollars

Targeted Interventions to Promote Persistence

This study documents perspective and best practices for linking financial aid to student success.

Paving the Path to Transfer

Increasing Community College Transfer by Reducing Barriers to Enrollment

This study documents how universities are growing transfer enrollment by eliminating barriers posed by standard outreach and admissions procedures.

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The Four-Year Graduation Imperative

Promoting Financial Wellness While Preserving Academic Exploration

INTRODUCTION

- Moving toward a holistic definition of student success
- Time-to-degree as an affordability lever
- Identifying sources of graduation delay
- Concurrent retention and on-time graduation solution sets

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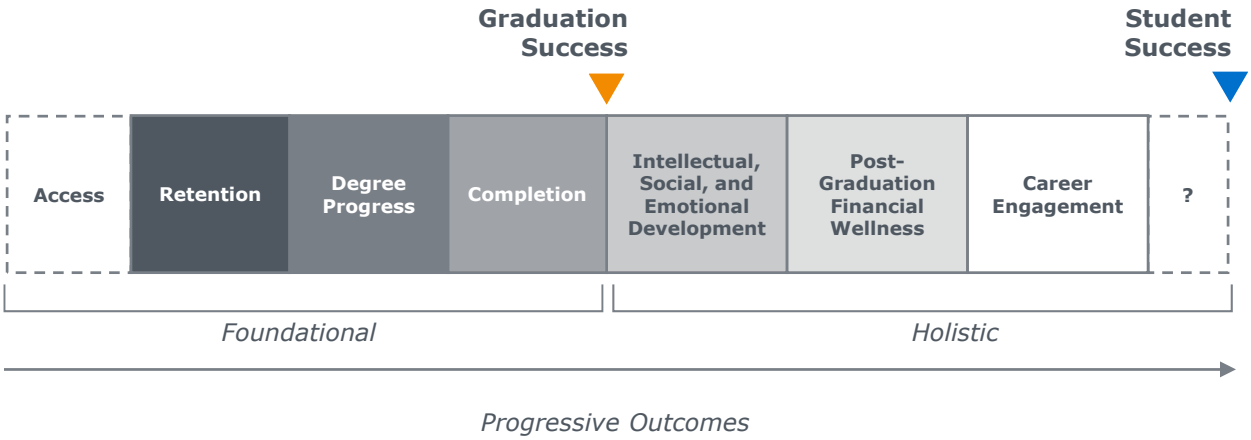
Beyond the Completion Binary

Student Success Encompasses More Than Graduation Success

Retention and completion are often viewed as synonymous with student success, with the emphasis on these metrics shaping much of our approach. For instance, many of our tools, like risk monitoring and intrusive advising, largely focus on managing attrition risk across the student lifecycle. Yet, despite the extensive body of work and resources dedicated to improving retention and completion, most institutions will agree that they do not wholly define student success. Rather, preventing attrition constitutes the foundation upon which holistic student development can be achieved.

Defining Student Success by How It's Measured



Ideally, a successful student would enroll; establish a sense of engagement and belonging on campus; develop academically, socially, and emotionally; graduate without overwhelming financial burden; and find satisfaction in their post-graduate pursuits, whether those be an advanced degree or employment. Even with this broader definition, institutions should periodically reevaluate their student success objectives to better serve students, who might perceive their success differently. As institutions continue to advance student success strategic planning, and move to organize resources and infrastructure to improve graduation success, we should also consider how to mobilize and adapt our strategy to support a more comprehensive set of student outcomes beyond the simplistic view of student success as graduation success.

Source: EAB interviews and analysis.

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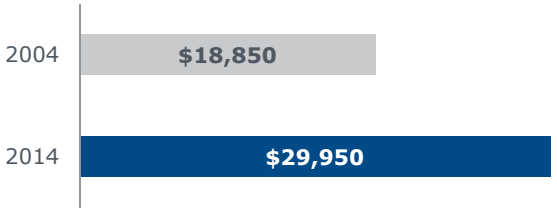
Rising Student Debt Delays Return on Education

Expanding Our Definition of Student Success to Include Financial Solvency

In the wake of the Great Recession, post-graduate financial wellness emerged as a key indicator of student success, gaining prominence in news headlines and as a central attribute in the federal government's College Scorecard. At the heart of this heightened focus was the recent and sharp rise in student loan debt, with the debt accumulated by graduates from four-year public and non-profit institutions climbing 56%. Average debt rose from $18,850 in 2004 to $29,950 in 2014, more than double the rate of inflation over that same time period.[1] The burden is widely felt, with 39% of graduating borrowers (32% at publics/44% at privates) owing greater than $25,000.[2]

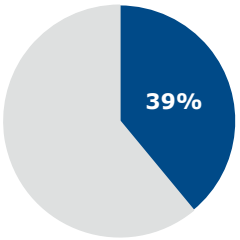
The Debt Burden Has Increased

Average debt at graduation, four-year public and non-profit institutions



Nearly 40% of Graduating Borrowers Carry >$25,000 in Debt

Proportion of four-year public and non-profit graduate borrowers with student debt >$25K, 2008



The Real Impact of All That Debt

Recent graduates with over $25,000 in debt frequently delay opportunities

- **56%** Delay starting graduate education
- **43%** Delay buying their own home
- **27%** Delay moving out of their parents' home
- **25%** Delay starting their own business
- **19%** Delay getting married
- **26%** Delay having children

In addition, research indicates that, past a certain point, debt levels could diminish the socioeconomic advantages typically associated with obtaining higher education. According to survey data from the Gallup-Purdue Index, a partnership that seeks to measure higher education outcomes, students with over $25,000 in debt frequently—and more frequently than their less-indebted peers—postponed opportunities such as going to graduate school or purchasing a home. Under mounting pressure from students, families, and legislators to reduce debt burden and restore the return on higher education, institutions are seeking ways to help students manage the cost of college and prepare them for long-term success.

1) The Institute for College Access & Success. "Student Debt and the Class of 2014." (2015).
2) EAB analysis of NCES, Baccalaureate and Beyond Longitudinal Study (2008-2012)

Source: Blumenstyk G, "Just Half of Graduates Strongly Agree Their College Education Was Worth the Cost," *The Chronicle of Higher Education*, September 29, 2015; EAB interviews and analysis.

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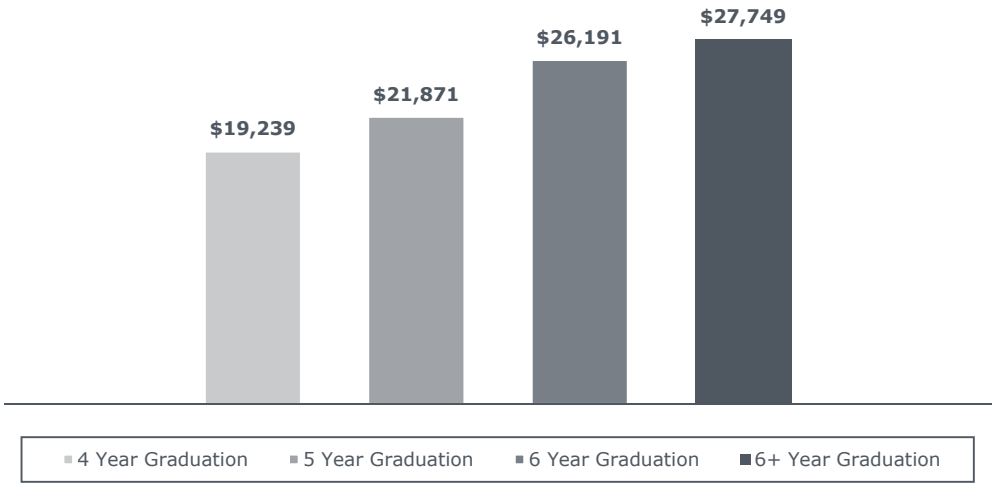
Paying a Penalty for Delayed Graduation

Steep Increases in Loan Debt Burden Associated with Extended Time to Degree

Unfortunately, without a sudden influx of institutional, state, and federal funds, students and families will continue to see the cost of college rise. In the meantime, the most obvious and near-term measure to help individual students manage costs and reduce student debt is to ensure they do not pay excess tuition and fees by extending their time-to-degree beyond four years. Institutions across the country have recognized this opportunity, with the popularity of "15-to-Finish," "Finish in Four," and graduation guarantee marketing campaigns on the rise. However, it is important to note that four-year graduation initiatives are not a panacea; students take different paths to graduate, with legitimate and even constructive reasons why a student would take more than four years to complete.

The Cost of Delayed Graduation

Undergraduate Student Loan Debt, University of Texas at San Antonio[1]



Most notably, overemphasizing four-year graduation leaves out students who extend time-to-degree because of lapses in full-time enrollment, largely due to circumstances beyond their control. These delays do not necessarily result in added costs, but they do increase the risk of permanent attrition.[2] For these "stop-outs," the focus should be to ensure clear pathways to re-enrollment and to provide the support they need to remain engaged despite disruptions to their education. However, for students who maintain continuous enrollment but are unable to complete on time, the financial consequences from added tuition and fees are substantial. At the University of Texas at San Antonio, graduating in six years rather than four is associated with a nearly $7,000 increase in student loan debt—a burden that is likely higher for students attending more expensive private institutions. While some students might be postponing graduation to enrich their undergraduate experience, the resultant increases in debt burden could delay the returns on their education. The challenge for institutions is to find methods to reduce time-to-degree that do not come at the expense of exploration and enrichment.

1) University of Texas at San Antonio. "Graduating On Time Saves You Money." *Rowdy Cents.*
2) Desjardins, S., & McCall, B. "Simulating the Effects of Financial Aid Packages on College Student Stopout, Reenrollment Spells, and Graduation Chances." *The Review of Higher Education* 33 (2010): 513-541.

Source: University of Texas at San Antonio, "Graduating on Time Saves You Money," *Rowdy Cents*; EAB interviews and analysis.

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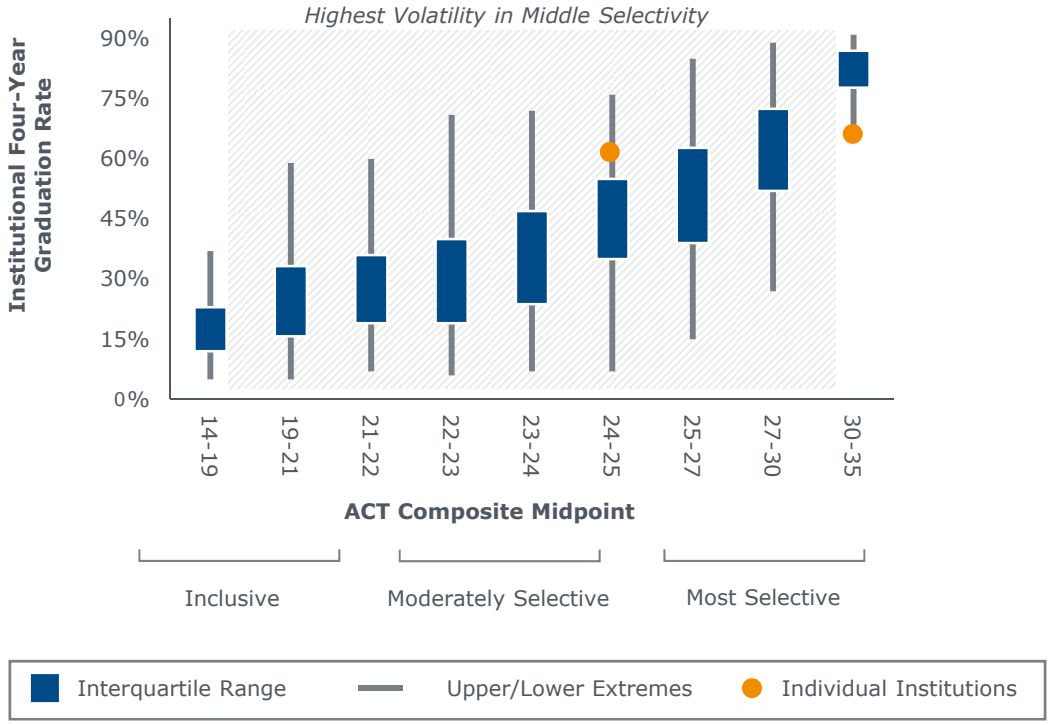
Wide Room for Improvement Across Selectivity Bands

Student Academic Preparedness Is Not Destiny; Institutional Practice Matters

As state legislators realize the cost savings opportunity presented by on-time completion, and mobilize to make performance-based funding and/or financial aid renewal contingent on timely completion indicators, critics of the on-time completion agenda are concerned that the shift in emphasis inherently disadvantages access-oriented institutions and the students that attend them. However, an analysis using ACT scores as a proxy for institutional selectivity indicates that four-year graduation rates can vary widely among institutions that admit incoming classes of similar academic preparedness levels, with some open access institutions achieving better four-year performance than markedly more selective schools.

Four-Year Graduation 25th to 75th Percentiles, by ACT Composite Midpoint[1]



While variability is lower in the least and most selective groups of institutions, within a single middle-range selectivity band, differences in graduation rates between the highest and lowest performers can exceed 70 percentage points. Perhaps even more striking is the variability between selectivity bands. For instance, the round marker in the 24-25 ACT midpoint band represents the four-year graduation rate of a large public research institution. This institution is graduating students in four years at the same rate as a small, highly selective, private liberal arts college, indicated by the marker in the 30-35 selectivity band. The key takeaway from this analysis is that, regardless of ability, where a student goes to college matters in terms of their graduation outcomes. Less selective institutions should not resign themselves to lower four-year graduation rates, as lower levels of incoming academic preparedness can be overcome with institutional practice and policy.

1) n=1,105.

Source: EAB analysis of 2014 IPEDS data.

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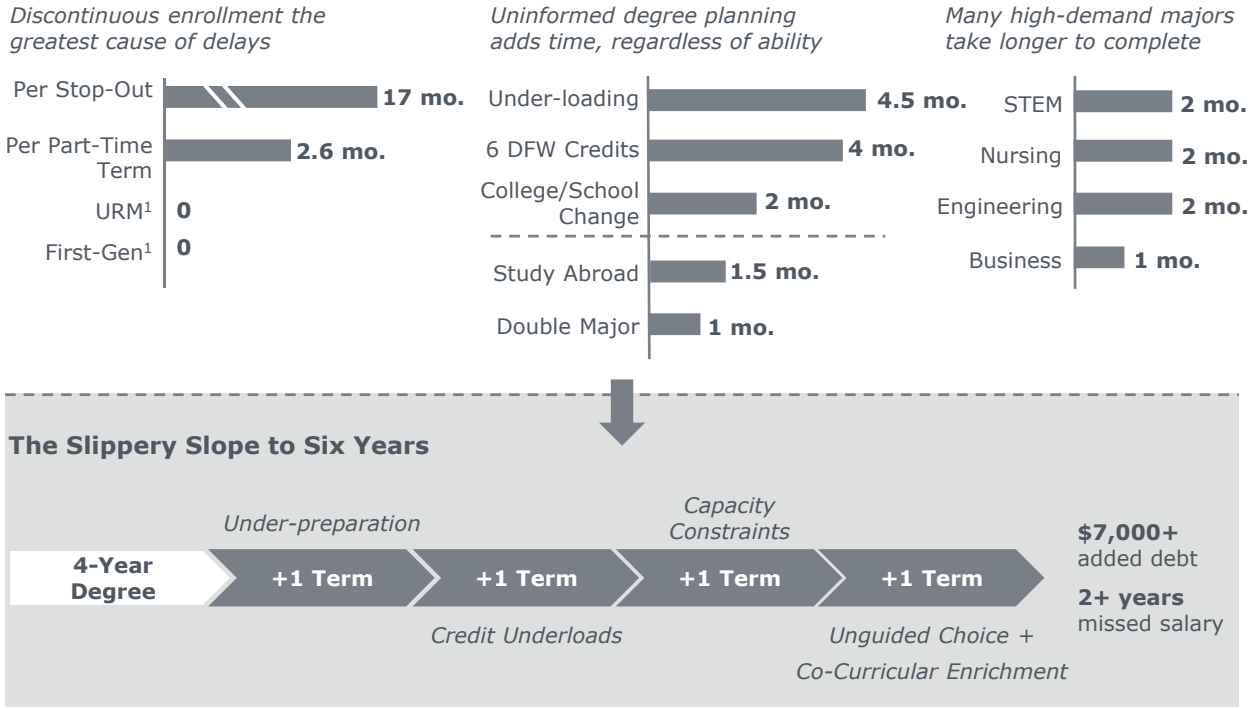
Preparedness and Finances Not the Whole Story

Complexities in Navigating Degree Planning Lead to Unintended Delays

To reach top four-year graduation performance, institutions must first understand the factors that meaningfully impede on-time graduation. For instance, to determine sources of delay, the Office of Academic Planning and Institutional Research at the **University of Wisconsin at Madison** analyzed data from over 10,000 first-time in college students who completed their degrees. The researchers used a linear regression model to isolate the impact, in average added time to graduate beyond four years, of individual factors relating to student characteristics or enrollment behaviors.

Selected Findings from UW-Madison Report: Predictors of Time to Degree (2014)

Data Represents Average Time Added per Event



As expected, enrollment behaviors associated with financial hardship, such as stopping out, predicted lengthy delays to graduation. However, as previously discussed, these breaks in enrollment might not cost the student additional tuition and fees. Other major impediments revolved around choices common to many students: taking less than a full credit load, enrolling in a course for which the student was underprepared, switching majors. Interestingly, high-achiever behaviors, such as studying abroad or double majoring, also predicted delays. Not all delays were attributed to student behavior, however. Controlling for all other factors, program choice, particularly for high-demand fields such as STEM or nursing, was a substantial source of delay. These programs can require more than 120 credits to complete, include a work placement component, and are notorious for being capacity constrained. Taken together, program capacity and a series of seemingly innocuous, and in some cases constructive, student choices can add up to a six-, rather than four-, year degree. While data are unavailable for a similar national-scale analysis, the delays revealed in the UW-Madison study are likely characteristic of the typical undergraduate experience.

1) Underrepresented minority and first-generation student status did not predict delays after controlling for other factors.

Source: University of Wisconsin-Madison, "Predictors of Time-to-Degree for Recent UW-Madison Undergraduates," December 2014, https://apir.wisc.edu/timetodegree/Predictors_TimetoDegree_2014.pdf; EAB interviews and analysis.

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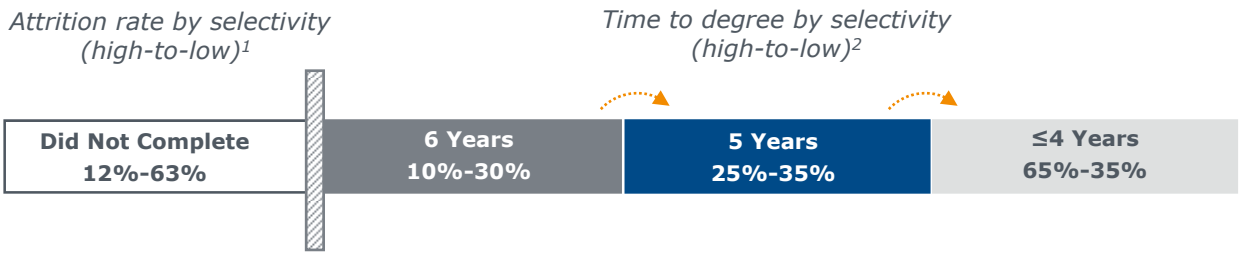
An Ambidextrous Success Strategy

Concurrent Solution Sets for Attrition and On-Time Completion

The UW-Madison study also makes apparent that the barriers to persistence and on-time completion do not always coincide. For instance, a change in major might not pose a significant risk to persistence, but it could extend a student's time-to-degree. As a result of these discrete challenges, institutions must adopt simultaneous yet distinct solution sets to address the causes of both attrition and delayed graduation. And while attrition is felt more acutely at access-focused institutions, as shown below, there is significant opportunity in accelerating completion for students who are already graduating, regardless of institutional selectivity.



The Retention Playbook

Traditional Success Levers

- Financial Aid
- Remedial Education
- At-Risk Student Services
- Predictive Risk-Scoring
- First-Year Experience
- Interventional Advising

...*and* The On-Time Completion Playbook

Guiding Student Choice

- Credit Velocity Campaigns
- Flexible Major Pathways
- Optimizing Course Selection

Managing Capacity

- Gauging Student Course Demand
- Preventing Capacity Bottlenecks
- Alternative Term Options

For instance, even at the most selective institutions where attrition rates are low and the likelihood of graduation is high, 35% of graduates do not complete their degrees within four years. Likewise, at access-oriented institutions, 65% of graduates need additional time to complete. Lower-income students, who are more likely to attend these open-access institutions, would also benefit the most from the cost savings associated with on-time progression.

To help students achieve holistic success, institutions must continue delivering their robust retention programming to ensure that their students can graduate. However, at the same time, institutions must be prepared to address the barriers to on-time completion. By guiding degree planning and academic exploration while also managing course availability, institutions can ensure that the students who persist because of their retention efforts can also make timely progress towards graduation.

1) Derived from NCES 2008 graduation rates by selectivity
2) BPS Longitudinal Study Cohort 04/09 First-Time Graduates

Source: EAB Analysis of BPS Longitudinal Study, 4-Year public and 4-year private not-for-profit cohort 04/09; Digest of Education Statistics, http://nces.ed.gov/programs/digest/d15/tables/dt15_326.10.asp?current=yes.

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Trading Exploration for Efficiency?

Faculty and Students Reject Efforts to Streamline Curricula and Restrict Choice

As it stands, every opportunity for student choice also represents an occasion for introducing unintended delays. In theory, the simplest means to shorten time-to-degree would involve reducing the complexity of our degree pathways by limiting the number of choices students have to make. Indeed, there exist proposals advocating that students make one choice—a program of study—and that prescriptive eight-semester degree maps path students towards four-year graduation. Such a model would minimize ambiguity around degree progression for students and, as a result, decrease uncertainty about course demand and capacity for institutions. While this straightforward approach might appeal to some, as shown below, evidence suggests that both students and faculty reject the notion of limited choice.

#1 Barrier to On-Time Completion: Seat Availability

Four-Year Block Plan: Register Once, Never Register Again!

- **High Demand Majors**

  Hospitality & Tourism, International Business, Management, Psychology

- **Set It and Forget It**

  Automatic registration in preset classes each semester

- **Guaranteed Classes**

  Priority seating for program participants

- **Predictable Set Schedule**

  Work and extracurricular activities organized around regular block classes

Program discontinued due to low student interest

Prescription at Odds with the Central Tenets of a Liberal Education

> Universities as a whole seem to send mixed messages. They say 'we want to get you through in a timely fashion' but they also say 'we want to give you choices'. **If you really wanted to get students through early, you wouldn't give them as many choices– but is that what a university should be about?**"
>
> *Barry Allred*
> *Registrar, Brigham Young University*

For instance, at a large public research university, student survey data indicated that the number one barrier to on-time completion was a lack course seat availability. In response, the university created the "Block Plan" for high-demand majors, which entailed automatic registration in preset schedules and guaranteed seat availability in classes held at predictable times. The intent was to facilitate degree planning for students, while providing consistent schedules around which they could plan their work and/or extracurricular activities. Despite the clear benefits for students, the program was discontinued after a year due to low enrollment. It appears as though students value course availability, but not at the expense of choice and exploration. Faculty and administrators tend to agree—exploration is the centerpiece of a liberal education and should be preserved.

Source: EAB interviews and analysis.

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A Fine Balance

Recalibrating Competing Goods of Student Choice and Timely Completion

Overall, evidence suggests that extended time-to-degree can be the byproduct of preventable incidents—namely, unguided student choices around major and course selection, as well as institutional impediments such as capacity constraints and unaccommodating course scheduling. Unlike the conventional wisdom of limiting choice, a balanced approach to promoting timely degree completion would strive to minimize these unintended delays to graduation and maximize positive opportunities for exploration within four years. In pursuit of this fine balance, we seek to answer four key questions:

Key Questions	Conventional Wisdom		EAB Research Insight
Can we minimize progression gaps for at-risk groups?	At-risk students will be overwhelmed by added course work	→	With added support, at-risk students can succeed when expectations are raised
Can we steer students to productive credits while preserving exploration?	Timely progression at scale requires prescriptive degree maps and restricted choice	→	Early guidance increases opportunities for exploration by reducing time lost from uninformed student choice
Can we ensure seat availability without costly excess capacity?	Current schedule setting practices are the most convenient for faculty	→	Use of easy-to-obtain data improves convenience of course scheduling for students and faculty
Can we provide flexible four-year pathways without lowering standards?	Added time-to-degree is the price of exploration or underpreparedness	→	Alternative and/or accelerated term options increase rigor while providing "catch-up" opportunities

In answering these questions, our research insights reveal a solution set that focuses on providing students with the supports they need to make effective choices that help them progress towards a degree in a timely manner, while maximizing their development through informed exploration. In addition, as we encourage students to engage in long term degree planning and complete full course loads each team, we must put measures in place to clear "supply-side" impediments and deliver on their plans. By merging these two approaches– informing good choices, and making good choices available– we can strike that fine balance and graduate students in four years.

Source: EAB interviews and analysis.

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Encouraging Early Credit Momentum

CHAPTER 1

1. Hardwiring "15 to Finish"
2. Summer Early Start for Borderline Admits
3. Summer Early Start for Transfer Students
4. Summer Early Start for All Incoming Students
5. Multi-section Calculus Redesign

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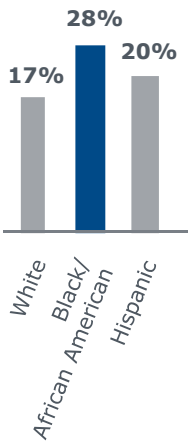
Starting Late from the Outset

Status Quo Systematically Under-loads Underrepresented Students and Transfers

Equitable outcomes for underrepresented students are a mission imperative shared across institutional segments. The unfortunate reality is that credit accumulation gaps between populations appear before students even set foot on campus. The National Center for Education Statistics' Beginning Postsecondary Students (BPS) national data set confirms what most university leaders already know: our current approach to degree progression systematically disadvantages two key constituencies, underrepresented minority students and transfer students.

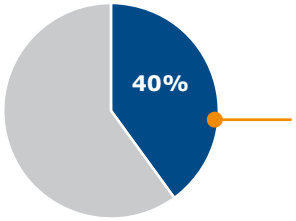
URM Students All but Destined for 5-Year Graduation

Remediation Enrollment



1st-Year Credits Earned, High Ability Students

Transfers Racing Against Pell Eligibility Clock



Community college transfer students that do not complete in 4 years

> "Transfer students are constrained by Pell lifetime eligibility, but they also register last. It is even more important that we get them started off right."
>
> *Michael Herndon, Director, Office of Summer and Winter Sessions, Virginia Tech*

Underrepresented students are overrepresented in non-credit-bearing remedial courses and so are immediately delayed in generating college-level credits when compared to their peers. They are also more likely to earn fewer credits during their first year in college—even after accounting for academic ability (measured by high school GPA).[1]

Similarly, community college transfers should be on a path to graduate from a four-year institution in two years, but almost half do not. Delays in time to completion are accentuated by the threat of losing Pell grant eligibility. After six total years of college enrollment, when Pell grant eligibility expires, delayed transfer students are left at risk of attrition for financial reasons in spite of how close they are to graduation.

Source: EAB Analysis of BPS Longitudinal Study 04/09 Cohort; Fain P, "Starting All Over Again," *Inside Higher Ed*, March 19, 2014; National Student Clearinghouse Research Center, "Transfer Outcomes," 2012; EAB interviews and analysis.

1) EAB Analysis of BPS Longitudinal Study 04/09 Cohort

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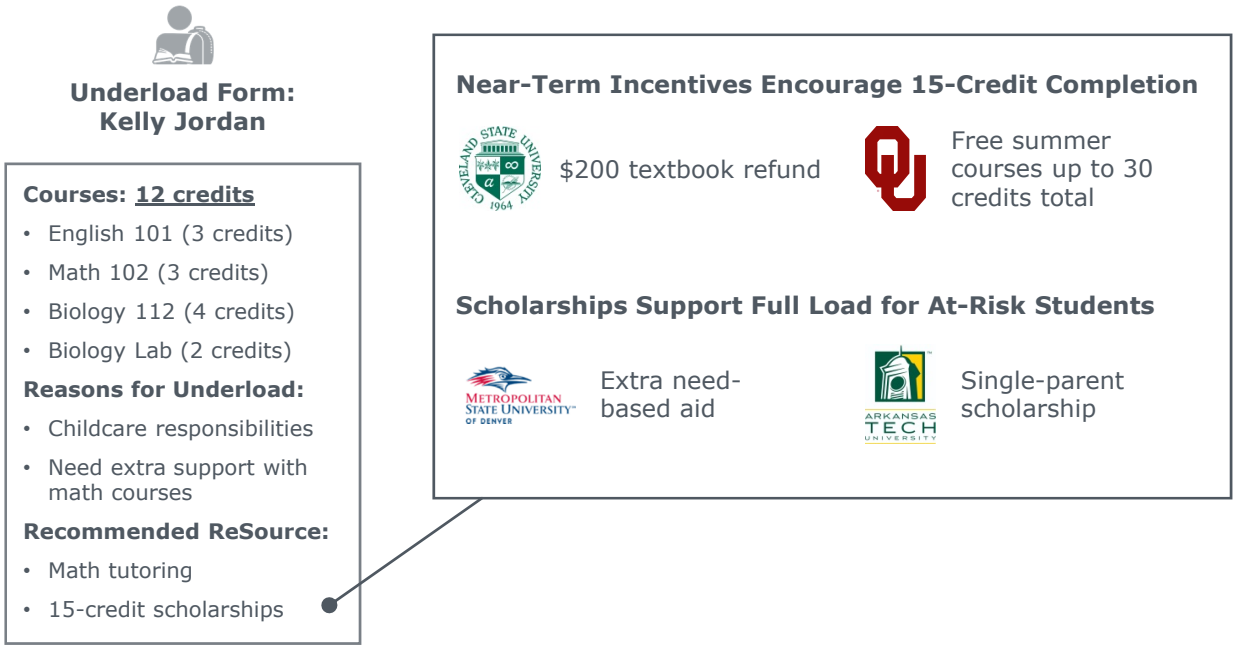
From Marketing Slogan to Standard Procedure

Advisors Must Document Reasons and Remedies to Approve Under-loading

When it comes to credit accumulation, the power of high-visibility marketing campaigns like "15 to Finish" cannot be overstated. Especially for first-generation students, for whom the incremental steps to graduation are less obvious, the direct message of these campaigns– graduate on time by completing 15 credits per term or 30 credits per year– clarifies expectations. Even more powerful is the counsel students receive from their advisors, who are concerned not only with academic success but also with students' mental health. Unfortunately, well-meaning advisors, under the influence of stereotypes, too often nudge underrepresented students to take fewer than 15 credits.[1] Though intended to ensure they can handle the academic workload, this advice unintentionally perpetuates disparities in degree progression.



To prevent these risks, **Grand Valley State University** embeds into its registration process the notion that underloading is the exception not the norm by adding an extra step to register a student for fewer than 15 credits per term. Advisors must seek a registrar waiver for any first-year student enrolled full-time but taking 12-14 credit hours. Waiver forms are never rejected by the registrar; the form simply creates an added step in the process that makes unnecessary underloading a bit more difficult.

In addition to disincentivizing underloading, several institutions have also created positive financial incentives for students who take 15 credits, as in the handful of examples listed above. Institutions which cannot afford incentives for every student should consider targeting scholarships to students with the highest financial need. Alternatively, textbook scholarships ensure that any revenue is returned to the institution.

1) Byron P. White, "Affirming the Student Success Underground," *Inside Higher Ed*, April 4, 2016

Source: Rosen S, "Kids and Money: Schools Offer Bonuses to Help Students Graduate on Time," *Reading Eagle*, May 4, 2015; University of Oklahoma, "Flat-Rate Tuition"; Metropolitan State University of Denver, "Foundation Scholarships"; Arkansas Tech University, "Foundation General Scholarships"; EAB interviews and analysis.

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A New Take on 'Parental Advisory' Messages

Orientation and Direct-Mail Campaigns Educate Parents About Costs

Parental influence on student behavior is a powerful, but largely underutilized force in the push for 15-credit courseloads.

Two campaigns from the **University of Hawai'i** and **Rhode Island College** structure parent-facing messages around key marketing principles:

High-Visibility Messaging to Parents at Orientation

- Captive audience
- Correct moment for nuanced message
- Make college costs real to parents

Follow-On Marketing in Subsequent Terms

Full-Time Does Not Equal On-Time

Encourage your son or daughter to take 15 credits to avoid added student debt!

"If students take 12 credits, they say they're full time—and they are for financial aid purposes, **but not for completing on time**. We created a postcard we mail home to families. It tells parents that 12 credits per term is **24 credits short of what students need to graduate on time**."

Holly L. Shadoian, PhD
Assistant Vice President, Academic Affairs,
Rhode Island College

The University of Hawai'i designs messaging to reach parental audiences when they are most receptive—in this case, at new student orientation. Parents sit down to watch a video outlining the consequences of under-loading and reminding them of the bottom-line costs of delayed graduation.

Rhode Island College continues promoting the message throughout the year with a follow-on marketing strategy timed to the Thanksgiving holiday. Academic affairs staff send out postcards to families just before students return home for the holiday break, encouraging parents to engage their students in conversations about graduating on time.

Source: University of Hawai'i, "Fifteen to Finish", http://15tofinish.com/; EAB interviews and analysis.

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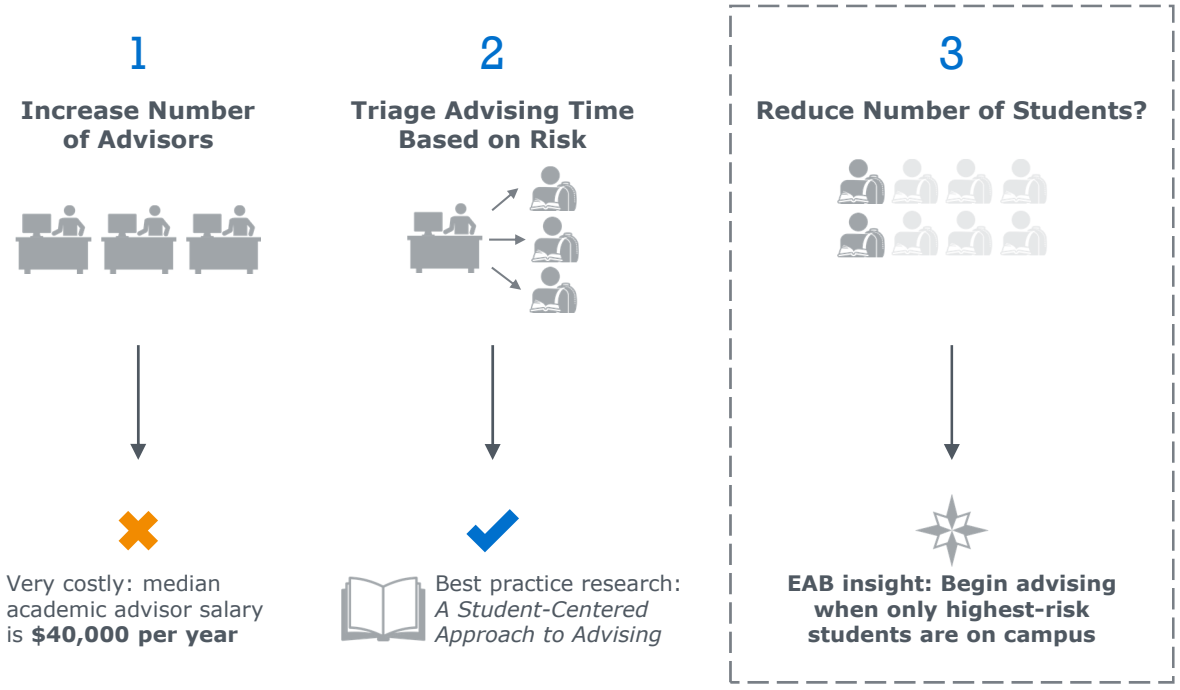
Sharpening Our Most Powerful Tool

Increase Face-to-Face Advisor Time for Most At-Risk Students

As mentioned previously, advising is the most powerful tool to help students navigate university systems and course selection, especially underrepresented and/or first-generation college students who may be unfamiliar with university processes. Institutions hoping to enhance advisor impact and increase student-advisor facetime often seek to reduce the student-advisor ratio below the national average of 300:1, but constrained budgets make the costs of hiring new advising staff prohibitive.



All institutions should triage advisor support based on student risk, focusing the bulk of advisor time on proactively engaging with "rising-risk" students before their concerns become insurmountable. But to further move the dial for our highest-risk students, there may be another way to rebalance the ratio: reducing the number of students. While obviously impossible during the regular term, Summer Session presents a unique opportunity to concentrate at–risk students on campus, ensuring advisors can focus on this group more or less exclusively.

Source: University of Missouri-Kansas City, "Advising Task Force Final Report," April 12, 2012, https://www.umkc.edu/provost/downloads/Advising_Task_Force_Report-Final.pdf; Payscale.com, "Academic Advisor Salary,": http://www.payscale.com/research/US/Job=Academic_Advisor_(College%2FUniversity)/Salary; EAB interviews and analysis.

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Summer Bridge to Nowhere

Traditional Bridge Programs Lack Graduation Impact

Summer "bridge" programs targeting specific student subpopulations are far from novel—many, if not most, institutions have put these programs in place, often for first-generation students, students of color, or students who lag behind their peers in GPA or test scores. However, as research has shown, summer bridge programs often do not support timely completion, and despite their admirable intent, may further exacerbate existing student disparities. The examples below represent typical summer bridge offerings:

No Credit for Remediation or Skills Courses

"The Summer Bridge Program (SBP) is a four-week program [for] select first-time freshmen students […] **Participants take math and English workshops**, designed to..."

Representative summer bridge programming language – Large Public University

Confidence Undermined by Being Classified "At-Risk"

…is designed for students from our partner high school and **students who self-identify as students of color or new American** […] focuses on mentoring, community building, grit and identity development…"

Representative summer bridge programming language – Small Private University

Summer bridge programs suffer from two major pitfalls. The first is that these programs are usually comprised of non credit-bearing instruction, whether remedial courses or brief study skills workshops lasting one to three days. As a result, summer bridge programming does not directly impact students' progress towards their degrees.

Secondly, while designed to build motivation, summer bridge programs may unintentionally signal to attendees that they are expected to struggle. Some of the language used around these programs can activate the much-studied "stereotype threat" effect; telling students that they are more likely to need support based on their demographic identity often undermines their confidence, even if the message is delivered in a positive light.

Source: What Works Clearinghouse, "Summer Bridge Programs," Institute for Education Sciences, 2016; EAB interviews and analysis.

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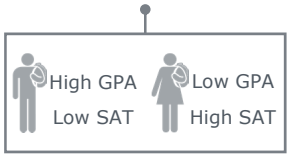
Getting a Head Start on Credit Momentum

Four-Step Guide to a Financially Sustainable, Credit-Bearing Summer Start

Georgia State University took a novel approach to the summer bridge concept. They believed that students who would typically need remediation could succeed in college-level courses with additional support. Typically, borderline-admitted students start later than others, as a way to manage capacity. Instead, Georgia State requires borderline admits to start college coursework the summer *before* their first year through its Success Academy program, allowing them to adjust to university life through smaller classes and with easier access to support services such as academic and financial counseling.

Georgia State University

Mandatory "retroactive-enrollment" of borderline admits in summer of previous academic year

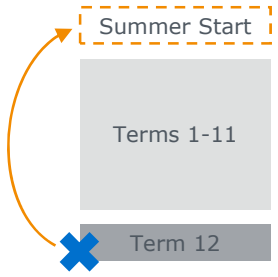


Students must fill out two FAFSAs

Enroll in 6+ summer credits in core requirements

- English (3 credits)
- History **or** Political Science (3)
- FY Orientation (1)

Students gain summer aid but lose regular 12th-term Pell eligibility



Credit Momentum Gains Outweigh Pell Eligibility Risk

Success Academy participants get head start on credit accumulation and expected to graduate in fewer than 12 terms.

About 300 borderline-admitted students are retroactively enrolled into Summer Session, which is technically part of the academic year previous to their intended fall start date. This technicality allows Pell grant-eligible students who file two FAFSA forms to fund their summer start term with federal aid. Pell funding requires part-time students to be enrolled in at least six credit hours of courses, so these early start students take seven credit hours in courses carefully selected to apply across all majors (limiting the delays due to major-switching later on).

Early start students attend courses already offered in summer term, taking classes as a cohort along with juniors and sophomores, which provides them with confidence-building role models—and also avoids extra costs associated with opening additional course sections.

Though students forego their 12th term of Pell eligibility by applying aid to summer instruction, previous experience of Georgia State faculty and administrators suggests that students who complete meaningful credit early and build confidence are unlikely to take six full years to graduate.

Source: EAB interviews and analysis.

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Maximize the Impact of Summer Start

Key Lessons from Georgia State's Success Academy

To avoid the risk of stigma or stereotype threat, Georgia State deliberately avoids references to students being "at-risk" or needing above-and-beyond support in its invitation to early start participants. Instead, the Success Academy invitation compares the program to those offered to honors students or athletes.

As a cohort, students attend extracurricular programming, such as financial counseling, and engage with wraparound services such as advising, tutoring, and supplemental instruction.

Positive Messaging

- Invitation emphasizes exclusivity of program, similar to those for honors students or athletes
- Students not explicitly labeled "at-risk"

"Core-est of the Core" Course Offerings

- English, history, political science courses apply to all majors
- No credits lost if student switches majors

Support Service Cohorts

- Students required to attend support services as a group
- Includes academic advising, financial counseling, tutoring, supplemental instruction

The Case for Math First?

- Success with compressed developmental math in 2-year schools
- Students in accelerated courses outperform peers

Since Summer Session courses are taught in an accelerated format, Georgia State decided to place students in English courses in the summer and wait until the fall to begin math instruction. However, research in community colleges has demonstrated that students can also benefit from accelerated math. Institutions looking to implement a summer early start program like Georgia State's might also consider offering math courses during this time, given that many of these students struggle with math and could benefit from extra support.

Source: Sheldon CQ, Durdella NR, "Success Rates for Students Taking Compressed and Regular Length Developmental Courses in the Community College," *Community College Journal of Research and Practice*, 34: 39–54, 2010, http://uf4cd.org/wp-content/uploads/2015/02/research-compressed-calendar-santa-monica-college.pdf; EAB interviews and analysis.

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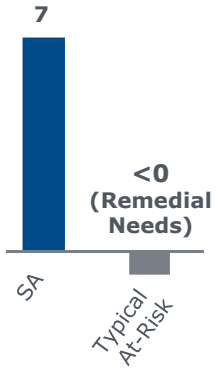
A Sprinting Start for Students in Need

Summer Academy Boosts Credit Accumulation and Confidence

The typical borderline-admitted student begins the first day of classes with a credit deficit, often requiring non-credit-bearing remedial courses before they can even begin for-credit coursework. In contrast, Georgia State's "Success Academy" (SA) courses are not remedial, allowing students to immediately begin accruing meaningful credit when they return to campus in the fall.

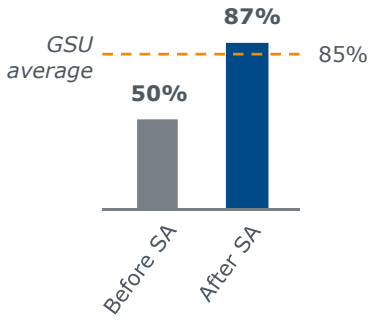
Head Start on All-Purpose Credits

Day One Credit Accumulation

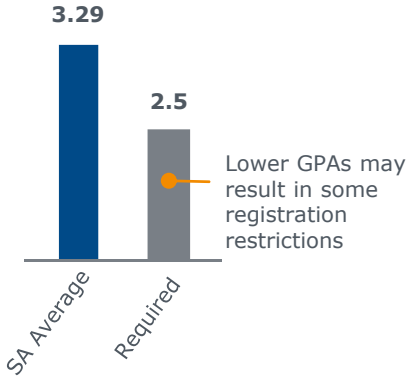


Raising the Retention Average

Fall-to-Fall Retention, Borderline *Admits*



Easily Clearing GPA Expectations



A Tool for Building Grit

The role of Success Academy (SA) is not just to create flexibility, but also to **build confidence** and show students they are capable of college-level work. Students with some on-campus experience under their belt **will do better in challenging courses later on**."

Tim Renick
Vice President, Georgia State University

The SA allows Georgia State to reduce barriers not only to timely progression, but also more broadly to retention and persistence. In the past at Georgia State, only 50% of conditionally-admitted students persisted to the second year. Now, Success Academy students retain at an 87% rate—above the institutional average of 85%. Even though Georgia State reported lower high school test scores after admitting borderline students early, its reported retention rate rose.

The SA students are also surpassing academic expectations. Borderline admits at Georgia State must earn a 2.5 GPA in order to register for courses without restrictions in the subsequent term. SA participants exceed even that mark, earning a 3.29 GPA on average. As noted by many institutional research studies, a first-term GPA this high is strongly correlated with future student success.

Finally, as the above quote from Tim Renick demonstrates, the benefits of Success Academy extend beyond GPA and credit accumulation to building grit and self-efficacy for an otherwise at-risk population.

Source: Renick T, "Georgia State University's Student Success Initiatives," Georgia State University, http://oie.gsu.edu/files/2014/04/Student-Success-Award.pdf; EAB interviews and analysis.

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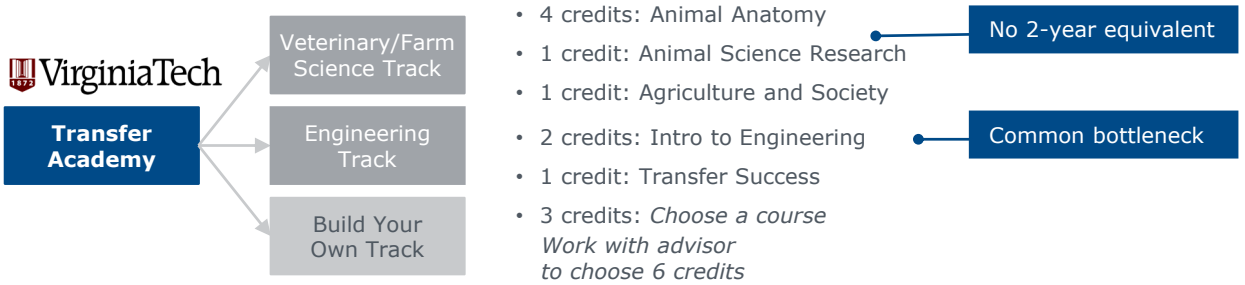
Jump-Starting Transfer Success

Major-Specific Tracks Address Articulation and Capacity Barriers

Virginia Tech is applying the same logic as Georgia State to the similarly at-risk population of transfer students. To encourage meaningful credit accumulation from day one, the Summer Division offers a Transfer Academy prior to fall term. The Transfer Academy addresses concerns of credit articulation and seat availability among new transfer students from Virginia's community colleges.

Summer Start Helps Transfers Overcome Major-Specific Delays



Paying for Summer Enrollment with Leftover Pell

Low cost of community college ensures most students have remaining Pell dollars to apply toward Summer Academy

The Summer Division at Virginia Tech asked departments to identify courses, typically in the STEM fields, which students need to gain admission to a major but for which there is no equivalent in community college, leaving transfers one term or more behind their peers. In addition to articulation issues, transfers typically register last, so they have lower likelihood of gaining a seat in bottleneck courses, the high-demand courses they need to graduate in two years after transferring.

Engineering and Veterinary students faced the largest number of these delays, so Virginia Tech developed individual summer "tracks" specific to these majors. Other students work with their academic advisors to build a custom track.

The Transfer Academy avoids presenting financial hardship to low-income transfer students. Because community college usually costs less than the Pell limit, students can typically apply Pell funding left over from the previous year at their two-year institution towards summer instruction.

Source: Virginia Polytechnic and State Institute, "Virginia Tech Summer Academy," http://www.vtsa.edm.vt.edu/; EAB interviews and analysis.

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Scaling Summer Start

Give All Students the Option to Get a Head Start on the First Year

In addition to its three Transfer Academy tracks, Virginia Tech also offers an institution-wide Early Start in the summer, allowing any incoming student to accumulate meaningful credits before fall term even begins.

By combining Virginia Tech's Early Start and Transfer Academy with Georgia State's Success Academy for borderline admits, summer term could be transformed to meet the unique needs of all new student populations.

Personalized Early Start Tracks for All Incoming Students

Georgia State University | Virginia Tech

Borderline Admit Track	Transfer Track	First-Year Track

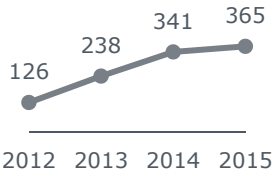
Sharing the Benefits of an Early Start

- Ensure seat in bottleneck courses
- Live in residence halls to adjust to campus life
- Greater access to wraparound student services

Early Start Rises in Popularity

Virginia Tech

Enrollment by Year[1]



Predicts Timely Completion

26%

Of 2012 participants qualified to graduate in 3 years

Above, we have envisioned a fully-fledged summer program for incoming students. Students benefit academically from seat availability in bottleneck courses, smaller class sizes, and better access to wraparound advising and other support services. After forming connections with peers and living in campus housing, students also develop a deeper engagement with the campus community, which a significant body of research has shown to correlate with long-term student success.[2]

After four years of hosting Early Start at Virginia Tech, enrollment has steadily grown, suggesting that students recognize the benefits of spending part of their summer on campus. Not only are students more likely to graduate on time, many of them are even ahead of their peers—26% of participants are on track to graduate in three years, allowing them to reduce debt or add to their college experience with activities like studying abroad or participating in co-op employment.

1) Enrollment at Virginia Tech iis ntended to be relatively low to give students the feeling of an "exclusive" program.

Source: Kuh G, et al, "What Matters to Student Success: A Review of the Literature," 2006; EAB interviews and analysis.

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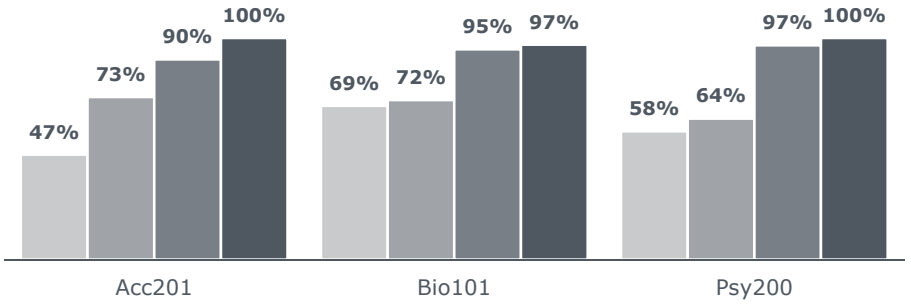
A Clear Opportunity for Improvement

High Variability in Pass Rates Within a Course Demands Further Analysis

Marketing campaigns and summer start programs are simple solutions to some of the most common impediments to on-time completion. Often left unaddressed in the graduation delay conversation are the politically sensitive issue of high D/F grade and withdrawal (DFW) rate courses. Faculty and administrators are rightfully concerned that any attempts to improve course outcomes should not come at the expense of rigor. But the data show that too often course section– not course material or complexity– is correlated with student success.

Failure Rates Vary Drastically, Even Within a Single Course

Pass Rates by Section and by Course, Fall 2013, Public Master's University



> "Pass rates varied widely from instructor to instructor, creating a strong sense in the minds of students and faculty that 'Who you took' mattered more than 'What you learned.'"
>
> Doug Bullock, Janet Callahan, and Susan E. Shadle
> *Authors, Boise State University Coherent Calculus Course Design*

As shown in the above data from a public master's university, failure rates often vary drastically across different sections of one course—up to a 47% difference between pass rates in one case.

In other words, a student's instructor may matter even more than his or her abilities in determining whether or not that student will progress toward timely graduation, as underlined in the above quote from the authors of a study conducted at Boise State University.

Source: Bullock D, et al., "Coherent Calculus Course Design: Creating Faculty Buy-in for Student Success," 122nd ASEE Annual Conference & Exposition, 2015; EAB interviews and analysis.

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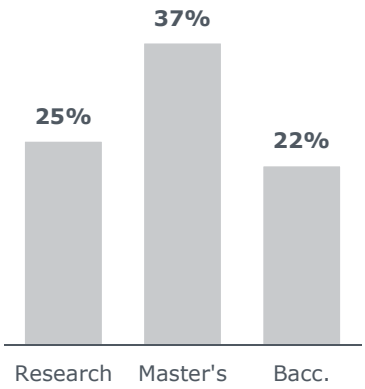
Calculus: Still a Filter, Not a Pump

Calculus Impedes Degree Progress While Lowering Student Confidence

Calculus, as many of us might suspect, is one of the greatest contributors to academically-related graduation delays. In 1988, the Mathematics Association of America (MAA) released a report titled "Calculus of the New Century: A Pump Not a Filter," encouraging institutions to view calculus as a supportive environment for skill development rather than a barrier preventing students from continuing on to advanced mathematics coursework. Yet thirty years later, calculus is still a filter for most.

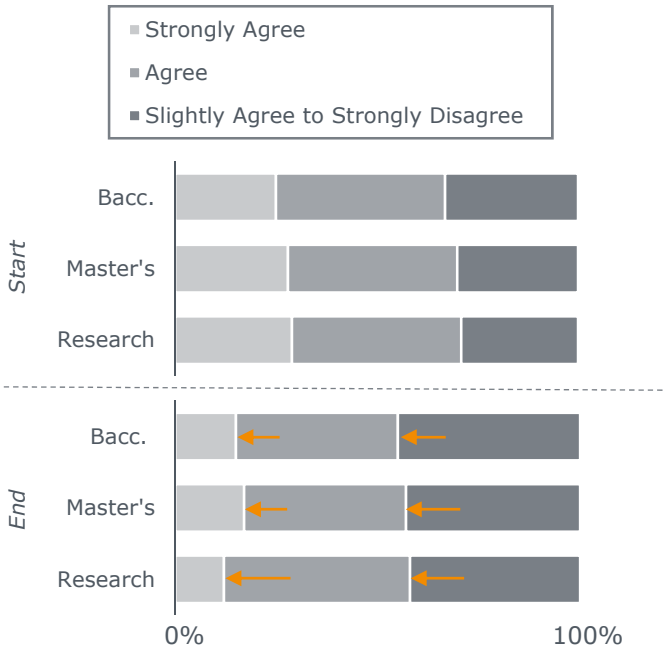
DFW Rate in Calculus I

Mathematics Association of America National Study of College Calculus



Before and After

Student Response to: "I am confident in my mathematics abilities"



Calculus involves some of the most challenging coursework, for which many students are simply underprepared. However, the persistent and drastic fail rates across all institutional sectors and types indicate that there are likely additional contributing factors. Above is the MAA's analysis of DFW rates for Calculus I courses, segmented by institutional Carnegie class. At master's institutions, 37% of students on average took calculus without receiving academic credit; they either withdrew or received a failing grade.

Perhaps more concerning, calculus courses also threaten student self-efficacy. The MAA asked students about their confidence in their math abilities before and after completing a calculus course. The result: nearly 50% of students were *less* confident in their skills after taking Calculus.

Source: Mathematics Association of America Calculus, "Calculus for a New Century: A Pump, Not a Filter," 1987; Bressoud D, Insights from the MAA National Study of College Calculus, *Mathematics Teacher* 109, no. 3, 2015; EAB interviews and analysis.

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Slow on the Uptake

Well-Known Strategies Improve Outcomes in High-Enrollment Courses

High-DFW courses may seem like an intractable problem for many institutions. But in truth, for high-enrollment courses like calculus, there are many well-documented strategies to improve student learning outcomes through active learning, enhanced supplemental instruction, regular assessment and feedback, increased student interaction, early intervention, and graduate teaching assistant training. Technology to facilitate scaling, data to increase precision of response, and dedicated resource centers to provide personalized assistance are critical support structures to maximize the improvements from reforms.

Course Redesign Checklist

- ☑ Active Learning
- ☑ Enhanced Supplementary Instruction
- ☑ Frequent Assessment and Feedback
- ☑ Engagement-Building Student Interaction
- ☑ Monitoring and Early Intervention
- ☑ Graduate Teaching Assistant Training

- Technology-supported interventions at scale
- Increased precision through data-driven decision making
- Personalized service with dedicated resource centers

Faculty Adoption Remains Major Barrier

THE UNIVERSITY of NORTH CAROLINA GREENSBORO

CRAFT Redesign Initiative → 50% Reduction in Ds and Fs in reformed courses →

> "We have shown the model didn't fail, which we expected it might. Now we have to get the others on board."
>
> *Maki Wade*
> *Senior Lecturer, UNC-Greensboro*

Where institutions truly struggle is not in putting the mechanics of course redesign and reform in place, but in creating faculty buy-in to *scale* reforms, moving from single reformed sections led by innovative faculty members to change at the departmental level.

As a case in point, *Inside Higher Ed* featured the University of North Carolina at Greensboro's CRAFT (Create and curate content, Replace lectures with Active, and Flipped, Team-based learning) course redesign initiative. The initiative was highly successful, reducing D and F grades in some redesigned courses by up to 50%. Despite their success, however, CRAFT participants report that their peers are slow to adopt the reforms they developed.

Source: Twigg C, "An Overview of Course Redesign," The National Center for Academic Transformation; Bressoud D, Rasmussen C, "Seven Characteristics of Successful Calculus Programs," *Notices of the AMS*, February 2015; Straumsheim, C, "Breaking the 'Iron Triangle'," *Inside Higher Ed*, August 17, 2016; EAB interviews and analysis.

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Revisiting a Familiar Concept

Faculty Learning Communities: Structured Forums for Teaching Scholarship

Much like the student learning communities that build early engagement and increase retention, many institutions have instituted *faculty* learning communities (FLCs) that draw on the same principles. An FLC brings together 8-12 faculty members from different disciplines and engages them in teaching scholarship through regular seminars and activities. FLCs are typically supported by Centers for Teaching and Learning, which assist with curriculum development and delivery and can fund small stipends or course releases for FLC participants.

Faculty Learning Community (FLC)

- 8-12 cross-disciplinary instructors (tenured, junior, adjunct, graduate student)
- Long-term seminar- and activity-based curriculum about teaching innovations
- Supported through Centers for Teaching and Learning (CTL)

Traditional FLCs

Cohort-Based

- Designed to meet developmental needs of specific faculty groups
- Prevents alienation and attrition through community building
- E.g., New, senior, or mid-career faculty; lab instructors; adjunct/part-time faculty

Topic-Based

- Addresses specific theme, opportunity, or teaching need identified by institution
- Culminates in deliverable that addresses campus need
- E.g., Incorporating technology into the classroom, developing an inclusive campus climate

Course-Based?

- Convenes instructors of a multi-section course to address needs specific to that course
- Promotes cohesion between sections through development of shared materials
- E.g., First semester Calculus, Biology, English

There are two traditional types of FLCs. Cohort-based FLCs bring together specific groups of faculty, such as new hires, adjuncts, or lab instructors, who are potentially prone to experiencing alienation. Topic-based FLCs bring together faculty members from across disciplines around a specific need identified by the institution—for instance, integrating technology into the classroom. The goal of FLCs is to support individual faculty teaching innovations while building community.

Boise State University has been using FLCs since 2007, but a few years ago, they pioneered a third type of FLC—a course-based FLC, which brings together instructors from a single, multi-section course with the goal of improving teaching and learning in that course through the adoption of shared, evidence-backed materials and approaches. They harnessed the innovation momentum generated by FLCs to reform first-semester calculus.

Source: EAB interviews and analysis.

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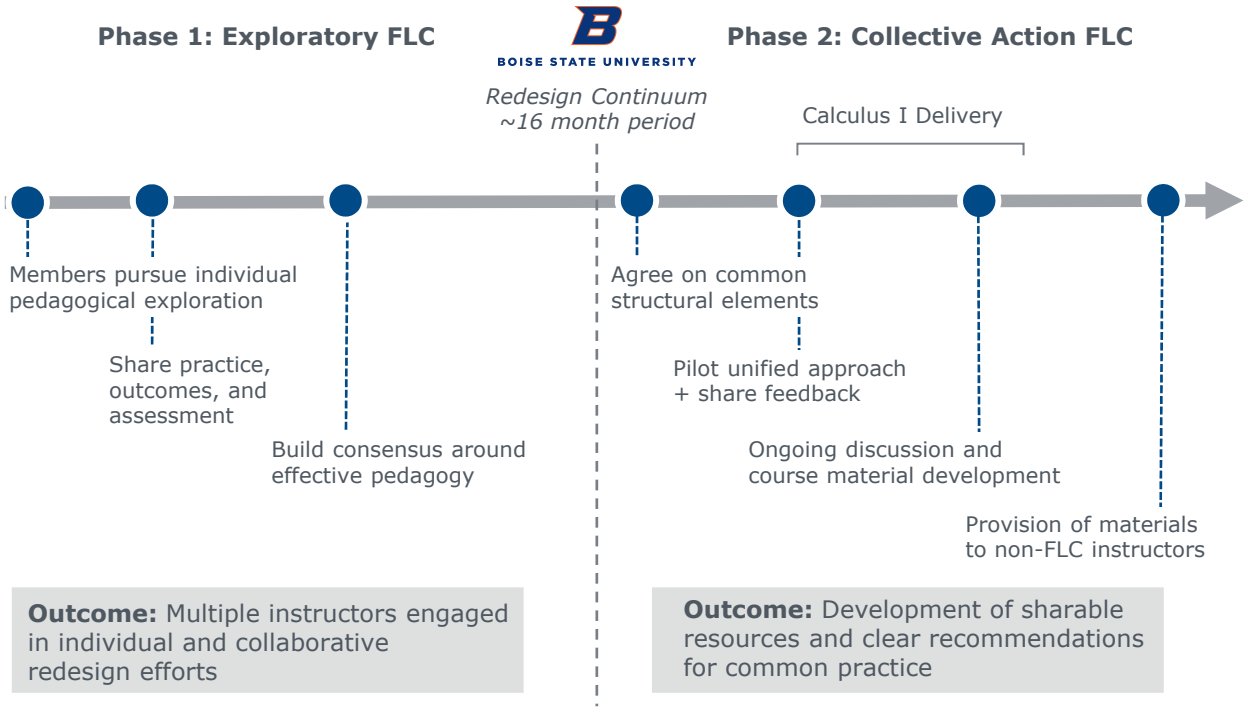
It Takes a Village

Calculus-Based FLC Fosters Collective Action Through Individual Exploration

Boise State's Center for Teaching and Learning invited mathematics faculty to participate in a course-based FLC, specifically to restructure Calculus I. The redesign effort, depicted below, took place over two phases over the course of about 16 months (or two academic years).

The first phase brought together an "Exploratory FLC," convening calculus instructors to explore and experiment with redesign strategies at both the individual and institutional level. This approach allows and supports individual pedagogical exploration, while the community structure encourages practice and outcomes sharing and, thus, collective learning.



The outcome from the first phase is greater consensus around effective pedagogy—and most importantly, among not just individual outliers but multiple instructors engaged in redesign efforts.

The second phase entailed a "Collective Action FLC", the goal of which was to actually implement collectively agreed-upon reforms in the classroom. Invitations to this FLC, which was convened in the fall term, were limited to instructors slated to teach calculus in the upcoming spring term. During the first half of this FLC, members set out to determine agreed upon reforms. The latter half of the FLC overlapped with a term of calculus, during which instructors would test out their new materials. FLC meetings involved sharing experiences with the reforms as well as planning for future weeks.

At the end of this process, the FLC members assembled materials for future calculus instructors.

Source: Bullock D, et al., "Coherent Calculus Course Design: Creating Faculty Buy-in for Student Success," 122nd ASEE Annual Conference & Exposition, 2015; EAB interviews and analysis.

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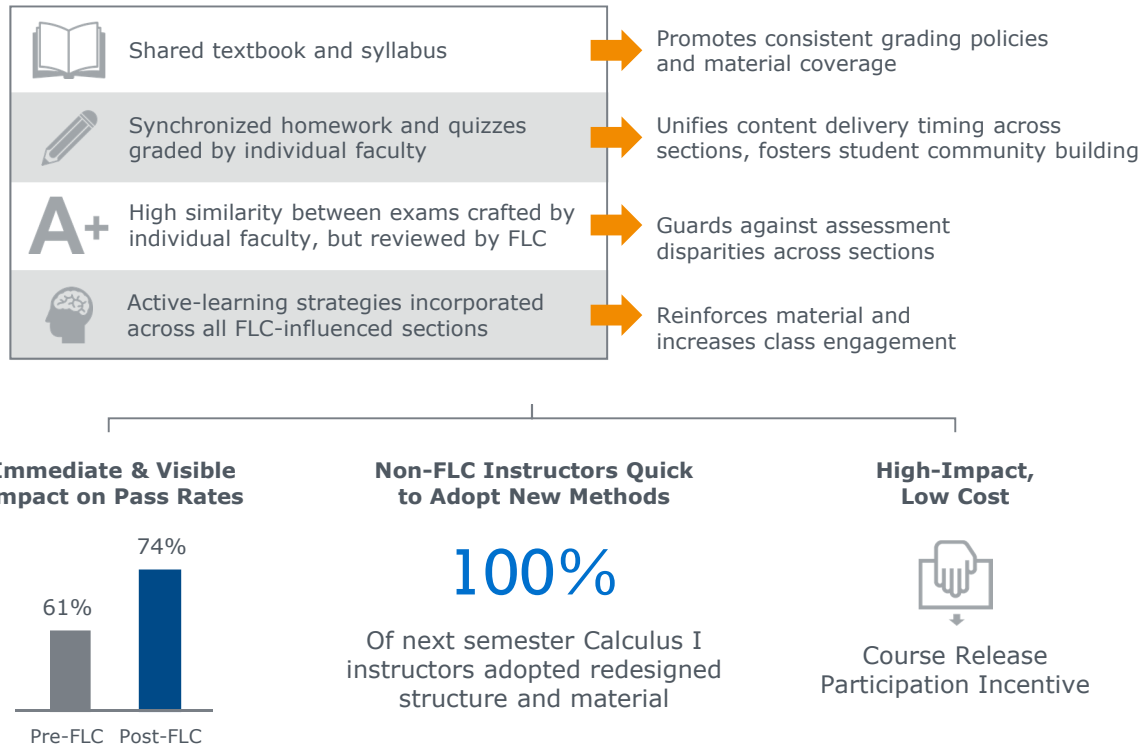
Beyond a Shared Textbook

Boise State 'Coherent Calculus' Scales Redesign Benefits to All Students

Boise State's calculus faculty were able to channel both individual and collaborative efforts to deliver evidence-backed redesign to a multi-section course. The reform process began with a shared textbook and syllabus, which would have allowed individual instructors freedom in determining course assignments and grading. In the collaborative academic environment of an FLC, however, instructors soon agreed upon not just shared grading policies and weighting, but also synchronized assignment of identical homework and similar examination material.

A Coherent Multi-section Course



This approach unified the timing of course content delivery as well as expectations for learning outcomes. Most of all, it resulted in FLC instructors adopting active learning strategies in the classroom, one of the most powerful means to achieve better learning outcomes. An ancillary benefit to this synchronization was that it fostered community building for students, even across sections. The impact this had on students was visible immediately—in the pilot term, student pass rates soared to a weighted average of 74% across sections. Boise State was able to achieve sustained reform, as all of the structure and materials developed by the FLC were adopted by 100% of calculus instructors, including non-FLC members, in the next term. There were no incentives or mandates to do so. And Boise State is continuing to see the benefits, with calculus pass rates climbing to 75% in the subsequent term. Maintaining adoption rates of redesigned materials requires only an email every term, to make new instructors aware of their options. Though Boise State incurred a small cost in course releases to support FLCs, the long-term impact of calculus reform far outweighed the magnitude of this investment.

Source: Bullock D, et al., "Coherent Calculus Course Design: Creating Faculty Buy-in for Student Success," 122nd ASEE Annual Conference & Exposition, 2015; EAB interviews and analysis.

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Maximizing Degree-Applicable Credit

CHAPTER 2

6. Major-Career Interest Matching
7. First-Year Meta-major Schedules
8. Degree Plan Express Registration
9. Major-Specific Delay Diagnostic

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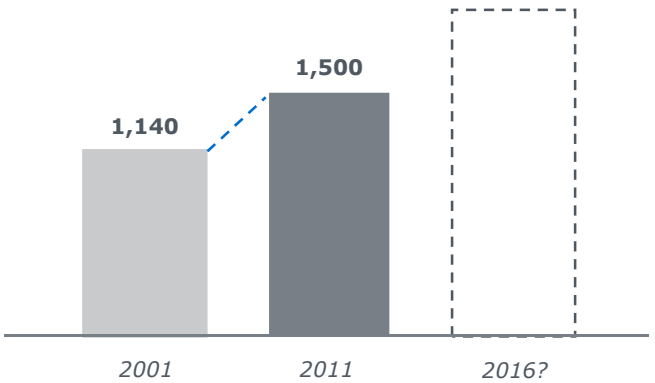
The Paradox of Choice

Proliferation of Offerings Induces Student Anxiety

For many students, major choice is a dilemma approaching an existential crisis. For perhaps the first time, they must grapple with questions of personal identity, career goals, and future aspirations. And when most institutions offer an overwhelming—and growing—number of program options, these pressures only intensify.

Surge in Institutions' Programs…

Academic Programs Reported to U.S. Department of Education



24% increase since 2001

…Leaves Students Questioning Major Choice

160+
available majors at Penn State

80%
declared students at Penn State uncertain of choice

A survey of students at **Pennsylvania State University** suggests that declaring a major is far from a sign of certainty. In 2012, 80% of incoming students who had *already* declared a major indicated they were still uncertain about their choices. With over 160 options available to Penn State's students, it is little wonder they were not sure they had chosen the right one.

The weight of major choice leads many academic leaders to ask: what are the implications of this uncertainty for time to degree?

Source: Simon CC, "Major Decisions," *The New York Times*, November 2, 2012; Fishman R, Love I, "Searching for the Right College", in *2015 College Decisions Survey,* New America, September 2015; Pennsylvania State University, "Penn State Majors"; EAB interviews and analysis.

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Better to Be Right Than Fast

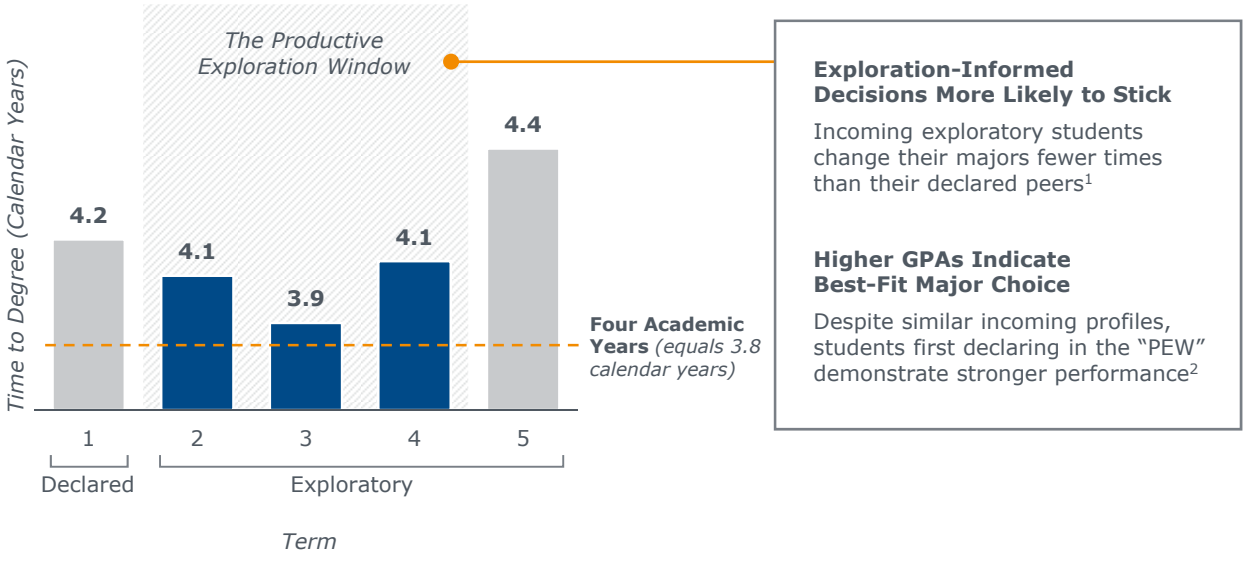
Picking the Right Major Later Is Better Than Picking the Wrong One Early

With timely graduation in mind, many institutions encourage students to declare a major as early as possible. Institutions that matriculate undeclared or exploratory students often assume them to be at higher risk of attrition. Yet this question of major choice timing has been largely unexamined at the national level, and at the institutional level the results and quality of analyses around the subject vary greatly. Through EAB's Student Success Collaborative dataset of over 45,000 student transcripts, we explored graduated students' time-to-degree based the term when they declared their first major.

Demystifying the Undeclared: Most Exploratory Students Graduate Earlier

Time to Degree by Term of First Major Declared[3]

n = 46,596



As expected, prolonging initial major selection carries a penalty; declaring a first major after the fifth term of study extends time-to-degree by approximately one term. Interestingly, students who matriculated with a declared major actually took slightly longer to graduate. While initially surprising, this trend might be explained by students who lingered too long in poor-fit majors (or competitive pre-majors such as nursing). Contrary to common wisdom, students who declared their first majors between terms two and four graduated in the least amount of time. Essentially, the data indicate that taking the time to explore—within reasonable bounds—is actually associated with *earlier* graduation, presumably because students are making an exploration-informed major choice. Indeed, other studies suggest that students who declare in what we're calling the "productive exploration window" are succeeding at selecting best-fit majors. They are less likely to change their majors, and overall the have higher GPAs than their peers who declared a major upon entry.

1) Undeclared incoming students change their majors up to 38% fewer times compared to their declared peers.
2) Western Kentucky University study demonstrated that exploratory students declaring in terms 2 & 3 have the highest GPAs.
3) EAB Student Success Collaborative data and analysis.

Source: Spight D, "Simply Declaring a Major Early Equals Timely Graduation, Right?" *Academic Advising Today*, 36, no. 1, March 2013; Foraker MJ, "Does Changing Majors Really Affect the Time to Graduate? The Impact of Changing Majors on Student Retention, Graduation, and Time to Graduate," Western Kentucky University, April 2012; EAB interviews and analysis.

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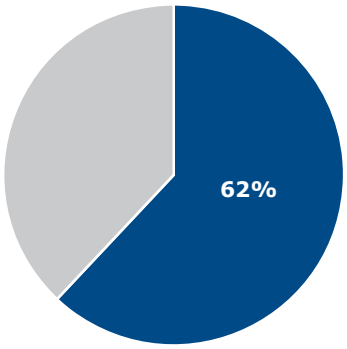
Minimize Time Lost from Major Changes

Late Major Switching Substantially Delays Many Students

Through the Student Success Collaborative dataset, we also sought to address the perennial question of major change policy, noting that major switches are very common—nearly two-thirds of incoming declared students change their majors at least once. Looking at the relationship between the term in which a student made their last major declaration and their time to degree, we explored the question of whether institutions should limit major changing to reduce completion delays.

More Than Half of Declared Incoming Students Change Their Majors[1]...

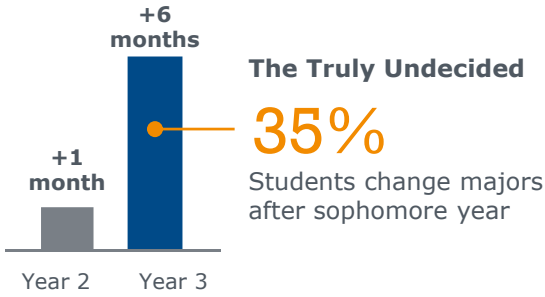
n=37,618



...But Only Major Switches After Sophomore Year Delay Graduation

Added time to degree (in months) by time of last major declaration

n=45,642



We found that an early change from a poor-fit major to a better-fit option can prevent delays. Major switching adds a negligible amount (one month on average) to time-to-degree—unless the last major switch occurs after a student's second year. At that point, students added a full term to their time-to-degree by switching their majors.

Late major changes are also far from a minor concern—over one-third of students were truly undecided, waiting until their third year or beyond to settle on a final major.

1) Incoming declared students that graduate from any major

Source: EAB analysis of Student Success Collaborative data.

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What's Wrong with This Picture?

Instead of Major Choice, Advising Conversations Dominated by Registration

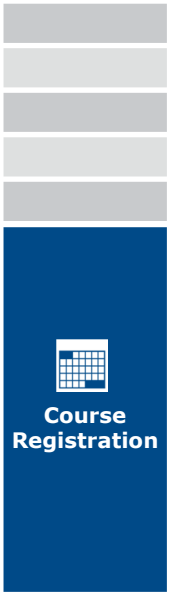
In theory, when it comes to major selection, academic advisors are once again a student's best resource. Especially at institutions with well-trained professional advisors, their role is to help students explore majors early on with intentionality and make timely decisions about a best-fit major.

Professional Advisors Cross-Trained in Multiple Specialties…

Advisor Capabilities

…But Course Registration Monopolizes Advising Meetings

Appointment Composition



However, the reality is that most advisor facetime is spent in constructing a course schedule. While academic planning helps students set and follow long-term goals, once-per-semester conversations at busy registration periods typically last only long enough to ensure that a student's self-selected courses do not conflict with other responsibilities and are in-line with their current degree map.

To improve major fit at scale, institutions must develop advising models that de-emphasize scheduling and instead focus on aligning a student's learning with their interests, skills, and career ambitions.

Source: EAB interviews and analysis.

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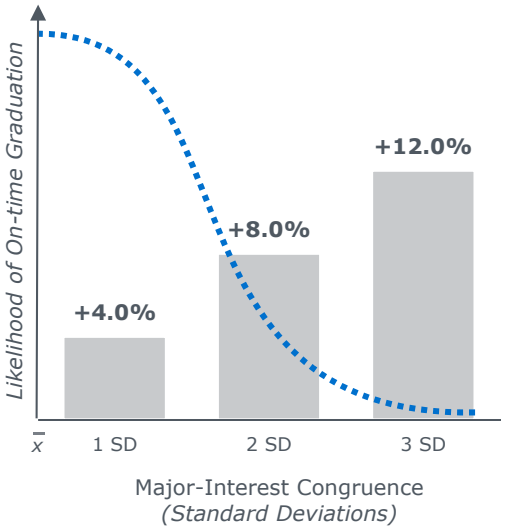
Flying Blind

Students Rarely Receive Best-Fit Major Counseling

The existing body of literature indicates a clear time-to-degree benefit from guiding students toward good-fit majors. Education researchers Jeff Allen and Steve Robbins found in a 2010 study that students with higher levels of "interest-major congruence"—a measure of how well students' interests align with their academic environment—are more likely to graduate in four years. Each standard deviation increase in interest-major congruence was associated with a four percentage point increase in a student's likelihood of four-year graduation.

Best-Fit Majors Promote On-Time Completion…



…But Students Rely on Anecdotes (or Nothing) to Assess Fit

Preferred Source of Information

3%

Of respondents used career planning tools

Most students seek advice from family members and teachers

However, surveys of students reveal that few are proactively taking advantage of the resources at their disposal to determine a best-fit major.[2] Rather than conducting online research via career-planning tools, most students rely on anecdotes from family and friends. Without institutional guidance and encouragement, students may wait until well beyond the productive exploration window to gather the information needed to select the major that is right for them.

Source: Beggs J, et al., "Distinguishing the Factors Influencing College Students' Choice of Major," *College Student Journal* 42, no. 2 (2008): 381-394; Allen J, Robbins S, "Effects of Major-Interest Congruence, Motivation, and Academic Performance on Timely Degree Attainment," *Journal of Counseling Psychology* 57, No. 1 (2010): 23–35; EAB interviews and analysis.

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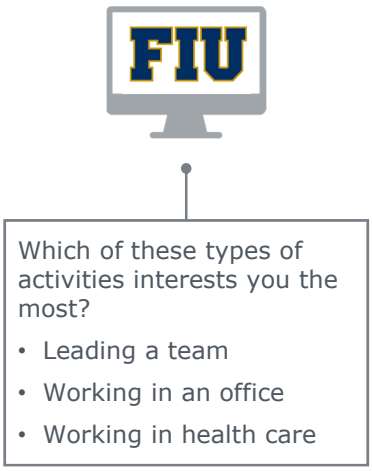
Put Career Exploration First, Not Last

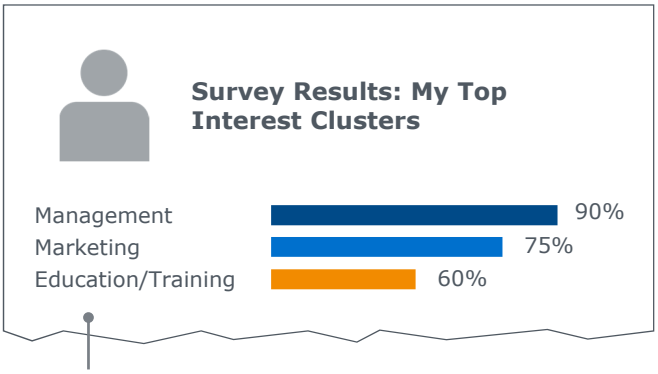
Pre-application Survey Links Career Interests to Majors

At **Florida International University (FIU)**, students are encouraged to explore majors and careers before even applying to the institution. Early career assessment helps students identify programs and careers that match their interests—including options they may not have been aware of before. At FIU, all applicants are prompted to take Kuder's 10-minute Career Interest Assessment, which generates a series of career clusters. FIU faculty worked with the Dean of Undergraduate Education to map those clusters to majors, which students can click on to view major requirements and more information.

Nestled Amid Application Requirements



Individualized Scoring of Major Fit



- 16 career clusters matching Occupational Information Network categories
- Each FIU major is mapped to a cluster
- Students can click to view course catalog

Tools like this are available in most career services offices, but students typically wait to access them until they begin their job search—usually in the third or fourth year. FIU intentionally chose to have students complete the assessment early, before students select an intended major. Far from forcing early major choice, these tools demonstrate the wide variety of majors and career pathways students can explore once they matriculate. Career interest assessments also broaden the conversation from a narrow focus on salary to a holistic look at which careers align with a student's interests and aptitude.

FIU's academic advisors also have access to the survey results for each students, allowing them to discuss major fit and career exploration as early as a student's first advising appointment.

Source: Trusty J, "Study of Outcomes Associated with Use of the Kuder® Career Search with Person Match at a Public Research University in Greater Miami, Florida," Kuder, Inc., June 27, 2014; EAB interviews and analysis.

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Big Dividends from Best Fits

Better Academic Performance, Less Switching

Completing FIU's career assessment is optional for applicants, but by listing the assessment among other application steps, FIU has achieved high participation: 65% of incoming students complete it.

Students also seem to be giving serious consideration to the assessment tool's recommendation, with 41% of participating students selecting a major in their top three recommendations. Their major choices suggest that students are not reluctant to research careers but simply unaware how to do so.

Tremendous Student Response

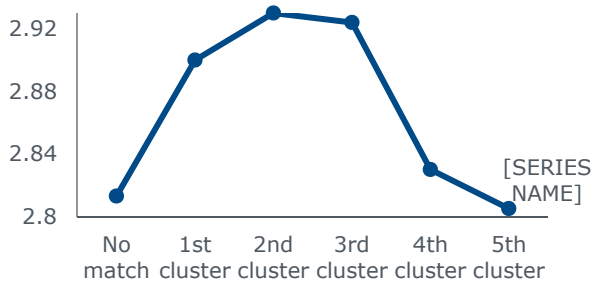
FIU

65% Of incoming students completed survey

41% Of students declared a recommended major

Highly Correlated with On-Time Graduation Markers

Third Semester GPA by Major-Interest Match



60% Of survey participants do not change major

FIU's results also confirm that students who declare a good-fit major see more academic success and display outcomes associated with on-time completion. Students who chose a major in their top three clusters perform better academically and 60% do not change their major (which we showed earlier can be associated with delayed graduation if a student waits until the fifth term or later).

Source: Trusty J, "Study of Outcomes Associated with Use of the Kuder® Career Search with Person Match at a Public Research University in Greater Miami, Florida," Kuder, Inc., June 27, 2014; Kuder, Inc., "Why Kuder?"; EAB interviews and analysis.

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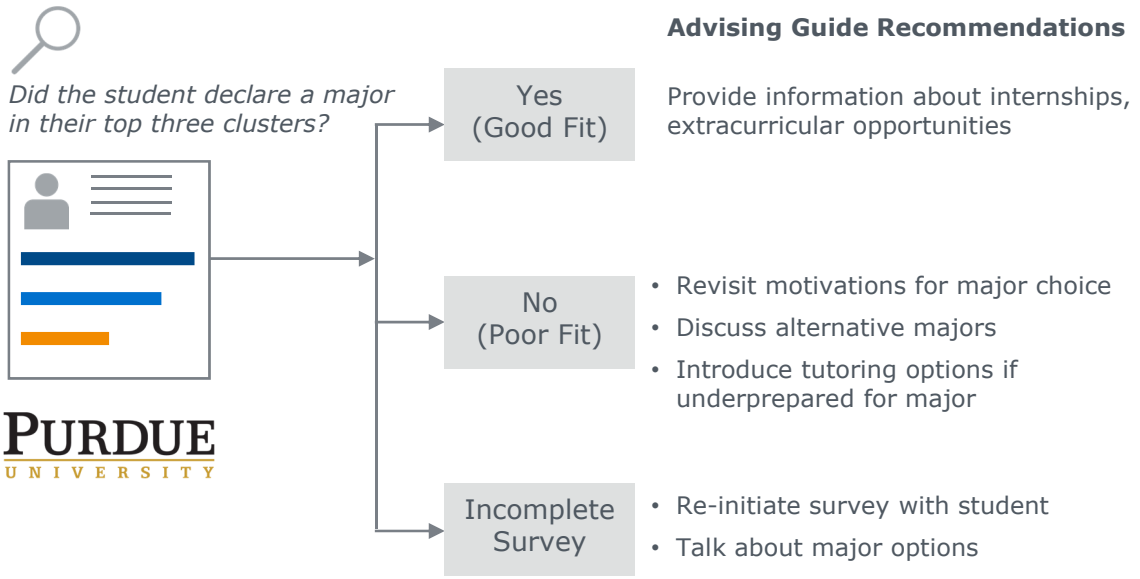
From Paperwork to True Advising

Survey Results, Advisor Training Enable Major Fit Discussions at Orientation

Academic advisors at **Purdue University** have developed a robust framework for major and career interest discussions early in the student lifecycle. Advising staff at Purdue are trained to engage students in major fit and career exploration conversations during their first advising appointment based on the outcomes of a career exploration activity administered as part of a pre-orientation to-do list. By moving the assessment up to the beginning of the admissions checklist, as FIU has done, students can start exploring the careers from the very start of the recruitment process.



The half-day advisor training, which is co-led by career services staff, offers a scenario-based conversation guide. For instance, if a student has selected a good-fit major, the advisor will point him or her toward information about internships and related co-curricular opportunities. If a student chose a poor-fit major, the advisor initiates a discussion about the student's underlying motivations for their choice and possible alternative options. If the student is unwilling to consider a different major, then the advisor will direct the student to tutoring or other resources that might help improve their likelihood of success in that major. Finally, if a student has not completed the assessment, the advisor can use the intake appointment as an opportunity to walk the student through the exercise.

Source: EAB interviews and analysis.

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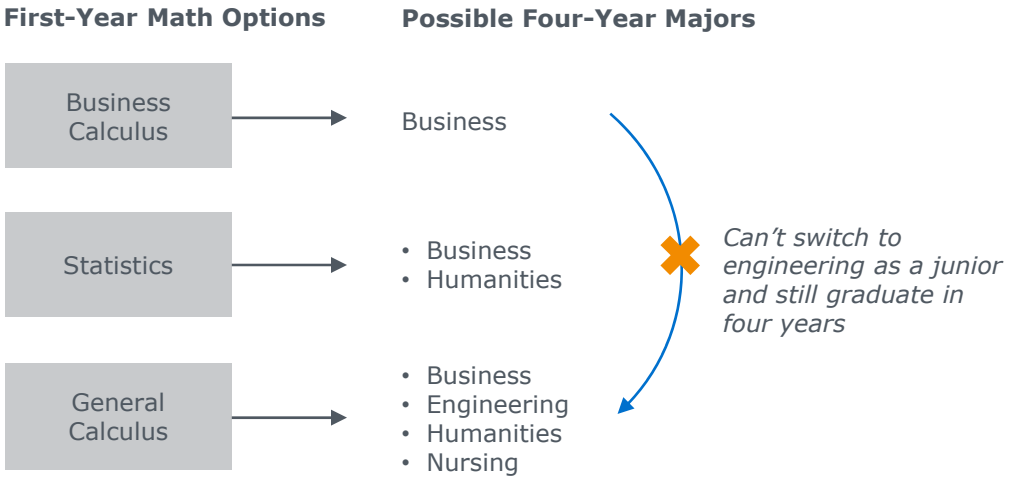
A Failure to Articulate

Students Can't Assess 'Versatility' of Early Courses

In addition to choosing a major, students also face the difficult task of selecting courses from a long and complex list of options. Typically, students choose courses by glancing at the requirements for their majors—major choices that many first- and second-year students are still uncertain about. At most institutions, the overlap in requirements between majors is limited, and when students change majors, their initial course selections may lead to delayed graduation.



Reducing Consequences of Exploration or Bad Choice

The curriculum can be difficult to navigate, and the advisors' role is to be realistic about where a student's choices can lead to. We talk to students early on **and enroll them into classes that work for larger groups of majors.**"

Amy Treboni
Director of University Exploration, The Ohio State University

For example, students often have numerous options to fulfill a first-year mathematics requirement. While general education requirements specify only mathematics, a student's major may limit their mathematics options. A business major might select a business calculus class, as opposed to a statistics class or a general calculus class. But if that business major switches to engineering after taking the time to explore, he or she now has to delay progress by a semester or more in order to take a general calculus class, depending on course availability.

Given advisors' limited time to discuss individual course choices, most institutions need a scalable way to automatically path students into courses that will maximize their major choices later on.

Source: EAB interviews and analysis.

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More Converts by the Day

Four-Year Institutions Embracing Meta-majors

Meta-majors, or lower-division tracks grouping together majors based on shared requirements, are one way that institutions across North America have tried to address the challenges of major exploration. The idea behind meta-majors is that rather than a specific major, students can choose a broad theme, such that their initial course selection is applicable across multiple individual majors that pertain to that theme.

Meta-majors in Brief

- A lower-division track based on common major requirements
- Early adopters: Florida State, Arizona State, CUNY Lehman
- 2012: Recommended by Complete College America in "Guided Pathways to Success"
- 2013: Florida state legislature adopts meta-majors for all of its community colleges

Now Launching Meta-majors:

- The Ohio State University
- **Trinity Washington University**
- University of Texas-San Antonio
- Rhode Island College
- And more…

Trinity Washington's Six Meta-majors

1 Business

Business Administration

2 Education

- Early Childhood Education
- Elementary Education
- Education

3 Health Sciences

- Exercise Science
- Occupational Therapy
- Nursing

4 STEM

- Biochemistry
- Biology
- Chemistry
- Mathematics
- Forensic Science

5 Social Sciences

- Criminal Justice
- Human Relations
- International Affairs
- Political Science
- Psychology
- Sociology
- Economics
- Woman's Studies

6 Humanities

- Communications
- English
- History
- Art History
- Fine Arts
- Language & Cultural Studies
- Philosophy
- Religious Studies & Theology

Meta-majors were developed at **Florida State University** in the 1970's and have more recently been adopted by Complete College America as "Guided Pathways to Success". Popular at community colleges, where many students are exploring related majors in preparation to transfer to four-year institutions, meta-majors are now in place at all two-year institutions in the state of Florida.

Meta-majors are also gaining popularity at four-year institutions, both public and private. **Trinity Washington University** is one example of a small, private undergraduate institution that has adopted meta-majors. Its meta-majors, listed above, represent a typical organization scheme.

Source: Trinity Washington University, "Majors and Meta-majors": http://www.trinitydc.edu/first-year/meta-majors/; EAB interviews and analysis.

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Three Strikes Against Meta-majors

Narrow Impact and Lack of Support Limit Traditional Meta-majors

Despite meta-majors' growing footprint in the four-year landscape, many students, administrators, and faculty still have mixed feelings about meta-majors. Those students interested in applying directly to a major may view meta-majors as a barrier to their major choice in the admissions process. Major choice is already a fraught and confusing decision for students to make, and meta-majors may only further complicate that decision.

Turns Off Students in Admissions Process

- New vocabulary doesn't match major or course preferences
- Perceived as restriction of major choice

Policies Prevent Scale

- Limited to undeclared students
- Optional: students advised on course choices, but no mandate

Burdensome to Faculty

- No time or incentive to streamline curricula
- "We're not a community college"

Other institutions are reluctant to scale meta-majors beyond a small group of students, instead using them to serve as a holding pen for undeclared or exploratory students. They guide discussions with first-year advisors or first-year experience course instructors, but if sample schedules or academic plans even exist for meta-majors, they are "opt-in," allowing students to ignore them.

One potential way to guide students toward meta-major paths would be to reshape the curriculum around meta-majors, as Florida has done in its two-year institutions. However, faculty at four-year institutions lack the time and incentive to redesign curricula, and are often hesitant to model curricula, after community colleges.

Source: EAB interviews and analysis.

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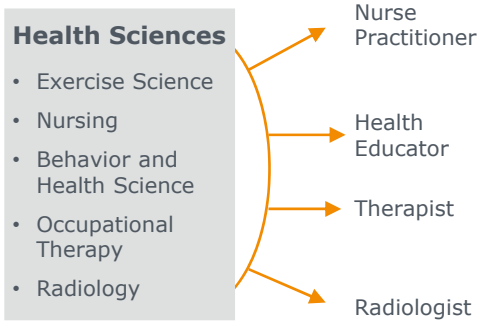
Fixing the Bugs in Meta-majors 1.0

Restrict Course Choice Early to Increase Major and Career Choices Later

Georgia State University's unique vision for meta-majors addresses some of their typical pitfalls. Rather than confusing applicants with the new vocabulary of meta-majors, Georgia State asks students to simply apply to a major or as undeclared. Meta-majors are introduced at first-year orientation. Moreover, meta-majors are mandatory for all students. Until required major declaration at 45 credits, Georgia State pre-sets students' schedules based on their meta-major (students still select electives). By being prescriptive at the outset, Georgia State preserves major optionality for students later on.

Advisors: Introduce as Career Exploration Guide

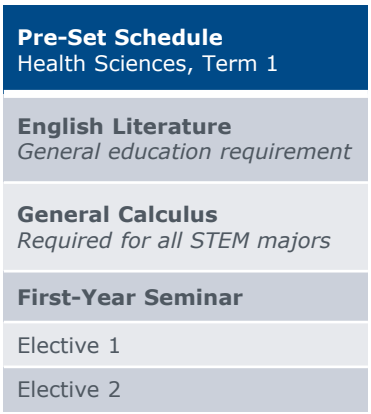
- Students can select major upon application
- Introduced to meta-majors at first-year orientation



Students attend sessions on job opportunities related to majors in meta-major

Registrar: Mandate Preset Schedules for First Year

- Mandatory for all students, not just undeclared
- Class selection ensures timely academic progress



Required major declaration by 45 credits

Georgia State University: A Light Lift for Faculty

- ✔ Academic advisors design clusters
- ✔ No change to curricular requirements

Results

30%

Reduction in major changes since implementation

Administrators tasked academic advisors with developing meta-majors based on shared requirements and career paths among existing major offerings, requiring no change to the curriculum. To ensure faculty buy-in, advisors gave faculty the chance to review the proposed meta-major clusters (though Georgia State reports that no faculty members rejected or challenged a proposal).

As a result, Georgia State students made 30% fewer major changes, suggesting that meta-majors led them to a best-fit option. Advisors also spend less time focusing on course registration because of the pre-set schedules. This allows more time for advisors to focus on guiding students towards good elective choices as well as to have in-depth discussions with students about their long-term academic and career plans.

Source: EAB interviews and analysis.

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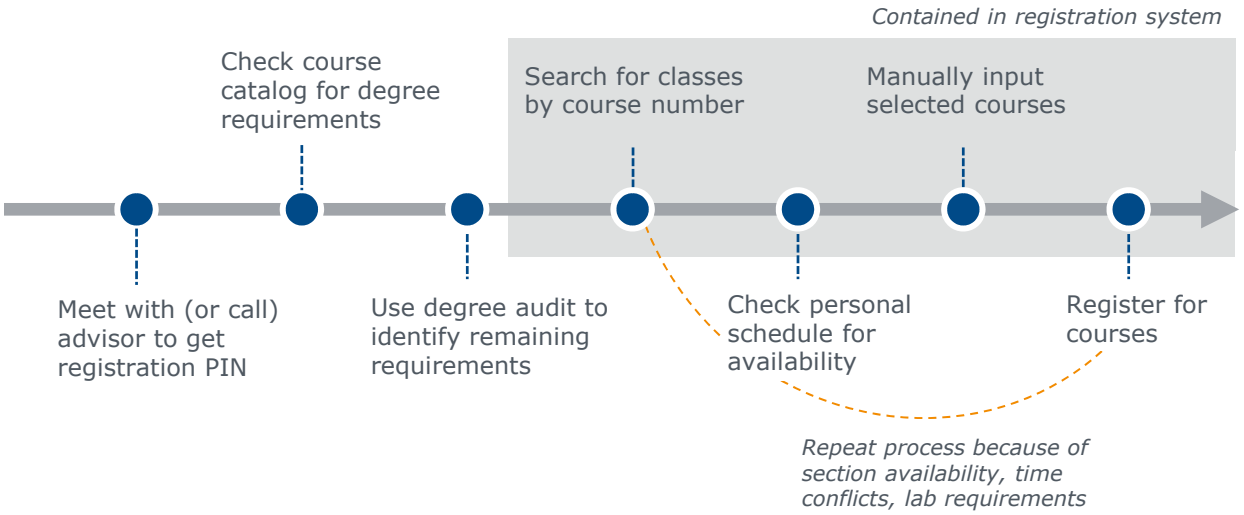
Navigating the Registration Maze

Choosing Courses Typically a Frustrating, Confusing Process for Students

Even at Georgia State University, students must still select courses on their own starting in the second term of their first year. Though the process of choosing first-year electives familiarizes students with the registration system, choosing courses remains extremely complicated. Students must check their selection against the course catalog, the degree audit system, and their own schedules. Only half of the required information is contained within the registration system itself, and advisor interactions are usually limited to a transactional meeting (or even a phone call or email) to get a registration PIN.

Typical Registration Process



Registration: The Next Generation

View required and suggested courses in eight-semester plan → Click directly on courses to add to cart → Choose from 3-5 suggested schedules (including lab)

In an ideal world—and perhaps just a generation or two in our future—students would register through an easy-to-use, student-focused system that collected every source of data pertinent to the registration process in one place. Students would enter their own schedules into the system, which would automatically create 3-5 suggested course schedules based on personal availability, major choice, and current level of degree progress.

The technical limitations of existing systems make this an unfeasible solution, at least for now. But until the "next-generation" system becomes a reality, institutions still need an immediate solution to remedy the role of poor course choices and confusing registration processes in time-to-degree.

Source: EAB interviews and analysis.

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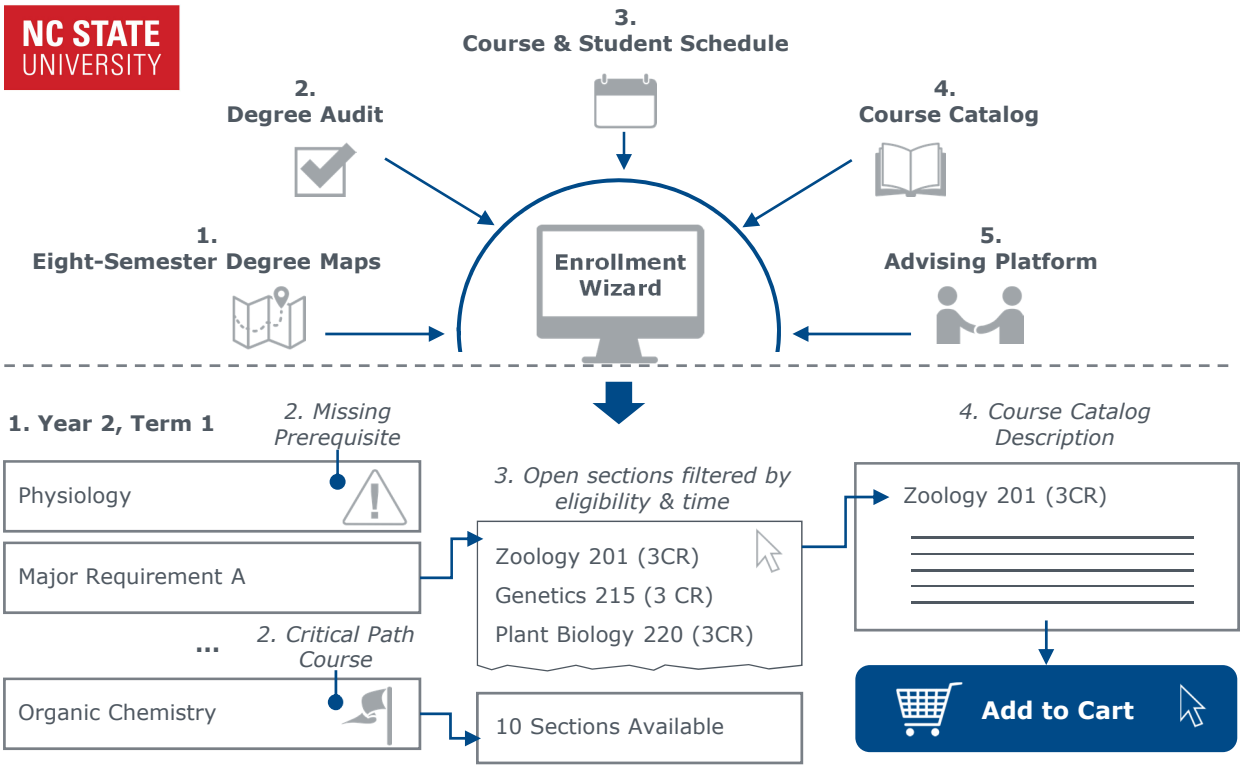
User-Friendly Experience

Integration of Registration Tools Guides Students Toward Graduation

In light of these challenges, **North Carolina State University** chose to integrate its existing registration tools. While the system does not automatically build a schedule for students, it has created a "one-stop shop" model of course registration. At NC State, the degree audit, eight-semester degree maps for each major, the university course schedule, the course catalog, and NC State's academic advising platform are integrated into a single-sign-on system called Enrollment Wizard. The Enrollment Wizard is built around the premise that a student will complete in four years.



Through the Enrollment Wizard, students can see which courses they need immediately, including "critical path courses" which predict success in a major. Critical path courses must be taken during specific windows of time in order for students to graduate in four years. When a student opts not to register for a critical path course in his or her degree plan, a flag is raised in the registration system, notifying the student. If the student persists without registering for the critical path course, a flag is generated in a student and advisor-facing advisor dashboard.

Additionally, students only see sections that fit their schedules, and if they have several options, they can explore course content via the integrated course catalog. Students can then put their desired courses into a shopping cart and register with one click.

Source: EAB interviews and analysis.

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A Moment for Registrars to Shine

Registrar-Led Critical Path Course Analysis Approved by Faculty

The Enrollment Wizard required significant up-front work on the part of NC State's information technology staff and registrar. The registration system is a custom-built backchannel between NC State's various registration tools which integrates a sophisticated degree audit system that took 25 years to perfect. Enrollment Wizard itself took approximately two years to build out completely and launched in 2012.

Registrar Vets Critical Path Courses with Faculty

The Registrar

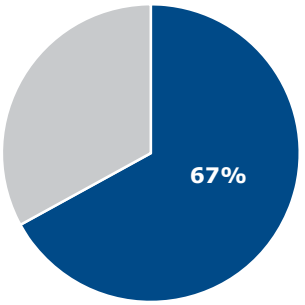
The Faculty

- Analyzes 8-semester plans
- Pinpoints 100-200-level courses that predict success in a major
- Creates unique identifiers in SIS and degree audit *(post-approval)*

- Associate Deans provided with definition of critical path
- Departments have 2-3 weeks to review Registrar's selection and submit revisions

NC STATE UNIVERSITY

Scaling the Solution Across the Institution



Critical Path Courses Identified for +200 Majors

The designation of critical path courses was determined by NC State's registrar through analysis of existing degree plans. The registrar sent a description of critical path courses and a list of candidate courses to faculty, who had a few weeks to review and respond with changes or recommendations.

Few faculty objected, and some offered helpful alternatives to the proposed candidates. The registrar then created unique identifiers for the critical path courses in the student information system and degree audit. In total, she identified critical path courses for over 200 majors (67% of majors offered at NC State) and is working to scale them to all majors.

Source: EAB interviews and analysis.

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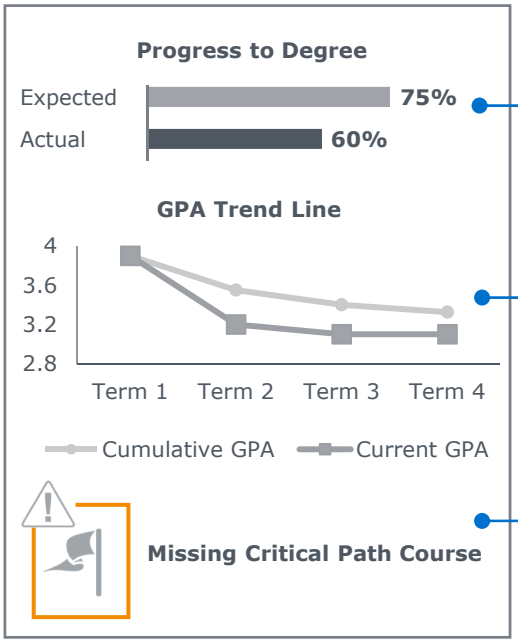
Supplemental Insurance

Linked Dashboards Nudge Off-Pace Students, Signal Advisor Intervention

As previously mentioned, NC State links its registration system to its advising platform, allowing advisors and students to see the impact of their registration decisions. Both parties can see the student's GPA trendline and his or her progress toward completing an eight-semester, four-year graduation plan. Most importantly, students receive notifications when they have failed to enroll in critical path courses, nudging them to quickly course-correct.

Linking Registration to Advisor/Student Dashboard



Progress is transparent to student and advisor

Trend line exposes developments masked by cumulative GPA

Post-registration warnings encourage quick course correction

Creating Efficiencies to Enrich Experiences

NC STATE UNIVERSITY

System Launch in 2012

50%

Less time for new freshmen registration *(Summer Orientation 2013 vs. 2012)*

Self-guided registration frees up advisor time for conversations about major-fit and career plans

It is very difficult to measure the widespread benefits of NC State's innovation. But in the first year of the launch, students took 50% less time to register for courses during orientation, leaving more time for advisors to address other issues. Additionally, NC State's four-year graduation rate has increased from 39% to 44% between 2012, the year of implementation, and 2015. While it is impossible to isolate the impact of the Enrollment Wizard on graduation rates, it is likely that this work contributed, at least in part, to their demonstrated improvements.

While NC State's Enrollment Wizard took over 20 years to perfect through a dedicated IT division, their work provides a roadmap for others on how to integrate existing degree planning tools to better path students towards timely completion.

Source: North Carolina State University Enrollment Management and Services, "Student Information System Features Enhance the Enrollment Experience," May 2, 2014; EAB interviews and analysis.

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Getting to the Root of It

Resolving Impediments Within Delay-Prone Majors

Even when institutions optimize student course choices, some majors are still more likely than others to cause graduation delays. The provost at the **University of Maine** sought to examine these delays more closely. Working with the director of institutional research, he ranked all majors according to their two-year graduation rates for students with at least 65 credits. He then asked the deans of colleges with majors in the lowest quartile of graduation rates to charge department heads with investigating sources of delays and proposing solutions.

THE UNIVERSITY OF MAINE

1. Ranking Major Graduation Efficiency

Two-year graduation rate upon completion of 65 CH

Major A	65%
…B	62%
…C	54%
…	…
…X	**48%**

- Analysis conducted by Director of IR
- Screen performed every two years
- **Low performers** selected for further audit

2. Surfacing and Addressing Program-Specific Delays

Departmental Assessment	Delay Taxonomy
Delay 1: Insufficient seats in upper division major requirement **Solution:** Open additional sections	Within dept. control, high-cost solution
Delay 2: Excessive prerequisite conditions for course X **Solution:** Review and streamline course sequence	Within dept. control, low/no-cost solution
Delay 3: Accreditation requirements **Solution:** n/a	Beyond dept. control

3. Rewarding Self-Starters

If departments tackle low-cost fixes…

…Provost awards additional resources for costly solutions

Graduation delays fall into three categories: those that are within the department's control, but require high cost solutions (e.g., adding capacity in a required course); those that are within departmental control and require only buy-in (e.g., restructuring an overly-complex prerequisite sequence); and those outside of department control (e.g., accreditor requirements). Departments that agreed to implement low-cost solutions would be considered for funding from the Provost's office to address additional, higher-cost fixes.

The University of Maine demonstrates how provosts can systematically address the often-unintentional barriers departments create for students. They first conducted this analysis in the 2015-16 academic year and will continue to do so every two years.

Source: EAB interviews and analysis.

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Aligning Course Capacity with Student Needs

CHAPTER 3

10. Uncapped Wait Lists
11. Intent-to-Register Plans
12. Multi-term Registration
13. Completion-Based Registration Priority

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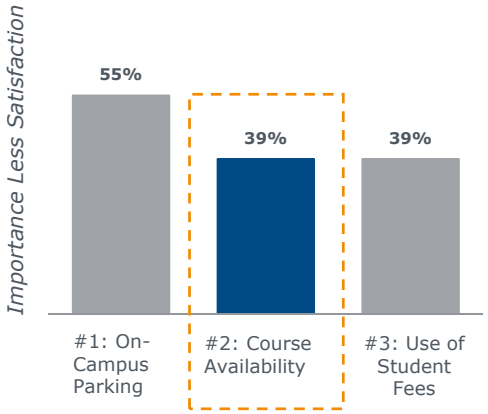
A Very Live Debate on Course Availability

Undermining Student Satisfaction and Time to Degree

Insufficient course availability is a commonly cited contributor to delayed graduation. Unfortunately, institutional research reports attempting to analyze and quantify the impact of course availability on degree progression have arrived at conflicting or inconclusive results. What we do know is the level of dissatisfaction students indicate regarding course availability. For instance, in a 2014 student satisfaction survey conducted at public universities, course availability showed the second largest gap between importance and satisfaction—second only to on-campus parking.

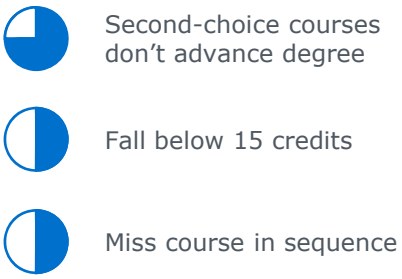
A Sore Spot for Publics

Highest Gaps Between Student Importance and Satisfaction



We're Working on Quantifying Graduation Delays!

Why Might Students Locked Out of Courses Fall Behind?



Based on our research interviews and analysis, it is possible to speculate on the reasons course availability might result in delays. Some students, to ensure a full-time schedule, might select courses that do not contribute to degree progression—for instance, courses that do not meet a core or major requirement. Other students might simply choose to underload, taking fewer credits and extending the number of terms needed to graduate.

Limited course availability also restricts students' ability to continue on to courses that have several prerequisites or must be taken in a rigid order. For these highly sequenced courses, one missed course can delay entry into all other major-specific coursework, in some instances by a full year.

Source: Ruffalo Noel Levitz, *2014 National Student Satisfaction and Priorities Report*; EAB interviews and analysis.

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Through a Glass, Darkly

Institutions Struggle to Gauge Forward-Looking Student Demand

Underlying the challenge of course availability is the widespread and complex problem of measuring unmet student course demand. Most institutions conduct little to no demand analysis at the individual course level, instead choosing to simply reuse the previous year's schedule. "Rolling over the schedule" is the least labor-intensive method of course planning, but it fails to consider changes in enrollment, student program preference shifts, or historical registration data.

Too Many Still Rely on Rolled-Over Schedules...

✔ Convenient for faculty

✖ Zero window into student demand

...And Even Conventional Demand Indicators are Only Half Measures

Historical Fill Rates

✔ Confidence in closing sections, but...

✖ ...risk in opening new sections

Capped Wait Lists

✖ No visibility into full extent of unmet demand

Unenforced Degree Plans

✖ Too many course permutations to predict demand

Some institutions use historical fill rates to inform or adjust course schedules. While historical fill rates allow institutions to be confident in closing a section if the fill rate is too low, they do not provide a good measure of excess demand. Institutions cannot be confident that a new section, if opened, would fill.

While course wait lists might present a picture of excess demand, most institutions choose to cap their wait lists, limiting the number of students who can add their names, potentially resulting in underestimation of demand. And in theory, we could predict what students might take using template degree plans, but most actual student degree plans have enough variability (in elective options, for example) that sample plans do not have predictive power.

Source: EAB interviews and analysis.

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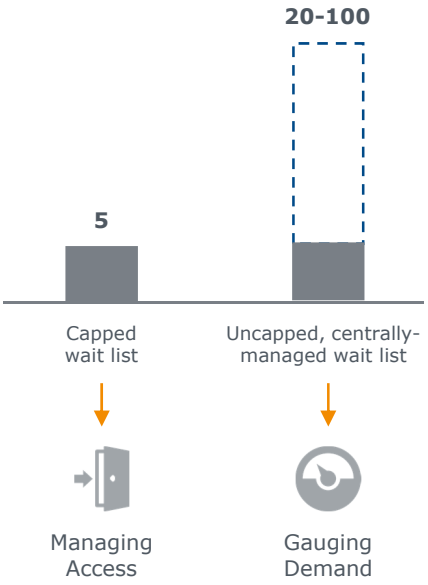
Uncapped Wait Lists…Just Do It!

Ensure That Wait Lists Gauge True Course Demand

The first thing institutions can do to improve data collection and better understand student demand is to remove the cap on course wait lists. For most institutions, this is a quick win: registration systems typically allow for centrally managed wait lists with a customizable maximum.

Limiting wait list capacity can allow course instructors to manage access to courses, but uncapped wait lists will allow institutions to truly gauge unmet demand on a course-by-course basis.

Getting a True Picture of Student Demand



Preventing Students from Gaming the System

No wait-listing for multiple sections of the same course

Include wait-listed courses in credit-hour maximum

Charge fee for excessive dropped courses?

The most common faculty concern around uncapped wait lists is that some students will use wait lists to optimize their schedules based on preference rather than need—not just gaining entry to required courses, but repeatedly altering their registration in an attempt to secure popular course times and instructors. Solutions include barring students from wait-listing themselves for more than one section of a course, or including wait-listed courses in the maximum number of credit hours allowed (usually 18-19). Some institutions even charge students a fee if they drop a large number of courses during the registration period. While a powerful incentive, this policy may unintentionally harm students who are struggling financially, and institutions should consider it only as a last resort. Financial registration holds are a common barrier to students that can delay graduation if not paired with proactive outreach and financial counseling and support.

Source: EAB interviews and analysis.

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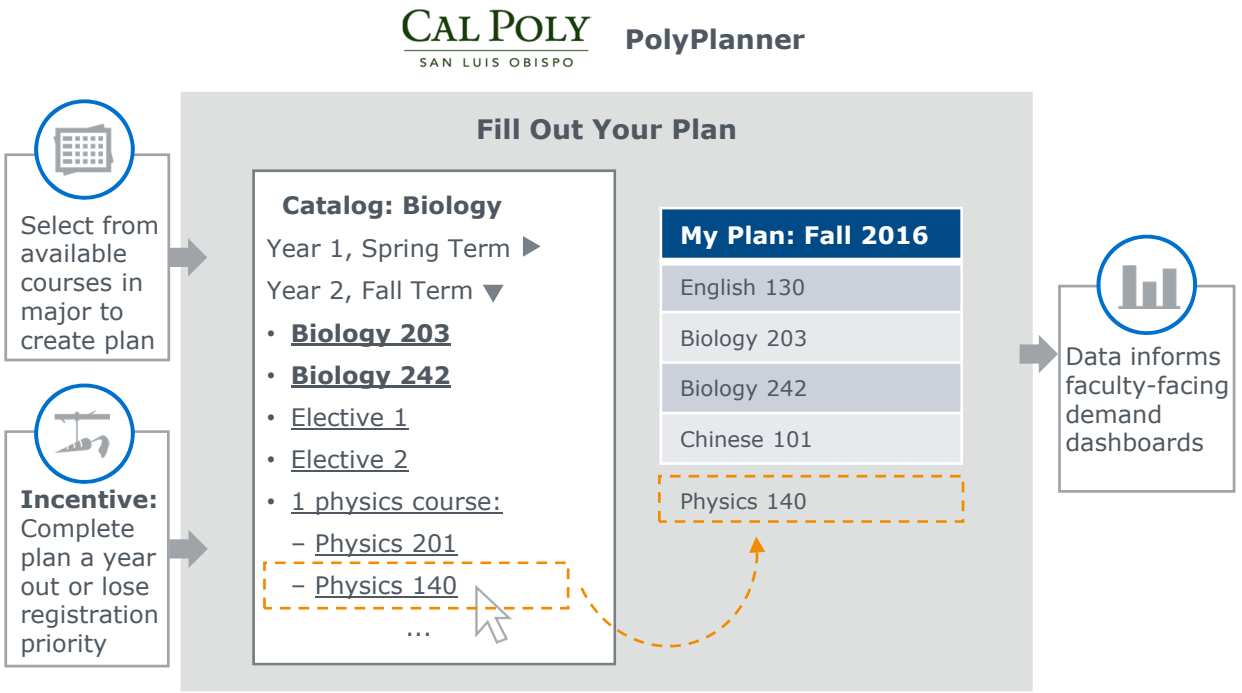
Testing Demand Before the Registration Window

Prompt Students to Indicate Preferences a Year in Advance

Using wait list data is still a reactive approach to capacity management, waiting until registration opens to determine how an already-set schedule needs to be tweaked. At **California Polytechnic State University, San Luis Obispo (Cal Poly)**, the university registrar developed a method of testing student demand in advance. Rather than relying on predictive analytics tools, which at the time of this writing tend to be limited, faulty, and difficult to integrate with existing software, faculty and staff at Cal Poly simply request course planning information directly from students.



At Cal Poly, students are required to fill out electronic degree plans for three terms at a time. To encourage compliance, students who fail to complete a degree plan forfeit their registration priority (determined by degree plan completion; see practice #12). Based on major-specific course maps and a course catalog lookup tool, students populate their personal plans into a system called PolyPlanner. PolyPlanner is not a registration system; students do not choose a specific course section, but rather a course number, untethered to section timing, instructor, or location. The information from the complete student plans is then automatically aggregated into a demand dashboard visible to department chairs and/or associate deans.

Source: California Polytechnic State University, "PolyPlanner": http://registrar.calpoly.edu/PolyPlanner; EAB interviews and analysis.

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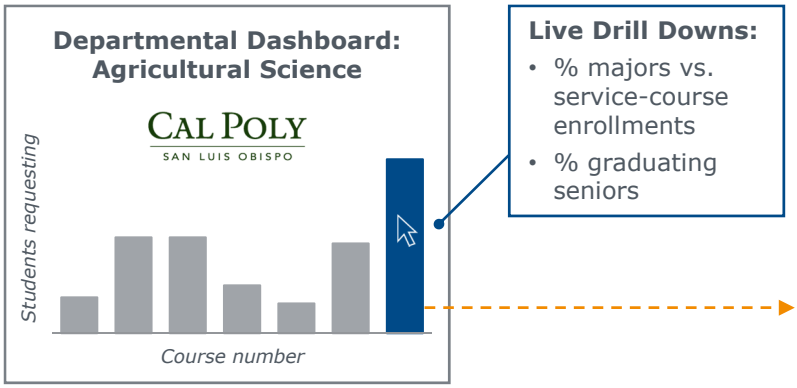
Plenty of Time to Rearrange the Schedule

Faculty Dashboards Prevent Mismatches in Subsequent Terms

Each department has its own dashboard, as in the example for Agricultural Science below. Each bar in the dashboard represents one course. The height of the bar indicates the number of students with that course in their degree plans. The dashboard also allows the user to hover over a bar to see how many students requesting that course are majoring in that department, as well as how many are graduating seniors. This permits departments to measure the urgency of the course's availability, and ensure that students close to completion are able to gain space in necessary courses.

When Demand Exceeds Supply: Add Courses



- Dashboards for every unit
- Updated as students shift plans
- Department chairs incorporate demand into scheduling

Smoothing Out Prickly Faculty Line Decisions

Making the case for more adjuncts

Balance instructors across high-growth and service units

Move instructors from low-demand courses

While students can update their PolyPlanner at any time, they are required to do so at least once a term before registration opens for the upcoming term. The dashboards are updated automatically to reflect any changes to student plans. By pulling forward course demand analyses multiple terms in advance, deans at Cal Poly are able to build a schedule around student intent from the outset, rather than tweak an existing schedule once registration opens.

While students certainly benefit from data-driven course planning, the demand dashboards also facilitate the capacity planning process for departments. Using the information, which cannot be artificially inflated by students requesting multiple sections of the same course, departments can make the case for more adjuncts. They can better balance instructor resources between high-growth departments and departments that offer service courses. And they can move instructors from low-demand courses to high-demand courses well in advance.

Source: California Polytechnic State University, "Course Demand," www.calpoly.edu; EAB interviews and analysis.

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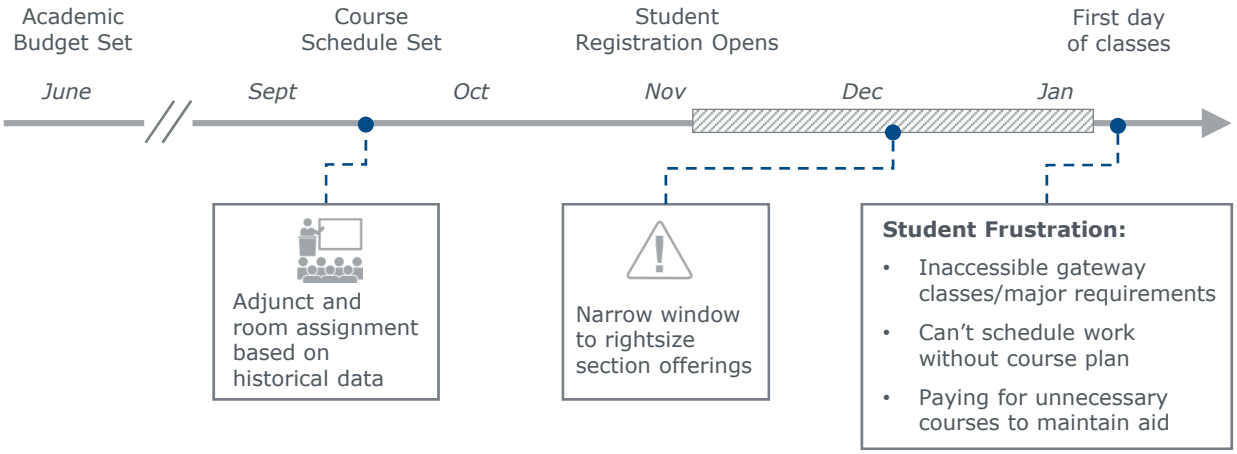
Little Time for Course-Correction

Supply-Demand Mismatches Often Require Hurried Resolutions

Even with the ability to gauge demand in advance, there will inevitably be some mismatches between student demand and course availability. Once students actually register for courses and a theoretical degree plan is converted into a tangible schedule, the effects of section selection come into play, and space and instructor availability needs become more acute. These complex concerns require significant time and effort to resolve, but the design of typical registration processes constrain the time a department has to respond to an influx of registration data, as depicted below.

Lose-Lose: Time Constraints Impede Remedies, Disadvantage Students



At a university using the semester system, the spring term schedule is typically set in September or October. Students register in November, leaving until January to address mismatches in course supply and demand. For much of this narrow window, faculty and staff are away from campus for winter break. This results in frustrated students who are locked out of critical courses and unable to plan their personal and work schedules. Some students will select unnecessary courses just to maintain full-time status for financial aid requirements. Meanwhile, faculty, department chairs, and deans scramble to close sections and open others, with a short timeline for hiring adjuncts to fill needs, especially at institutions located in areas with low instructor availability.

Source: EAB interviews and analysis.

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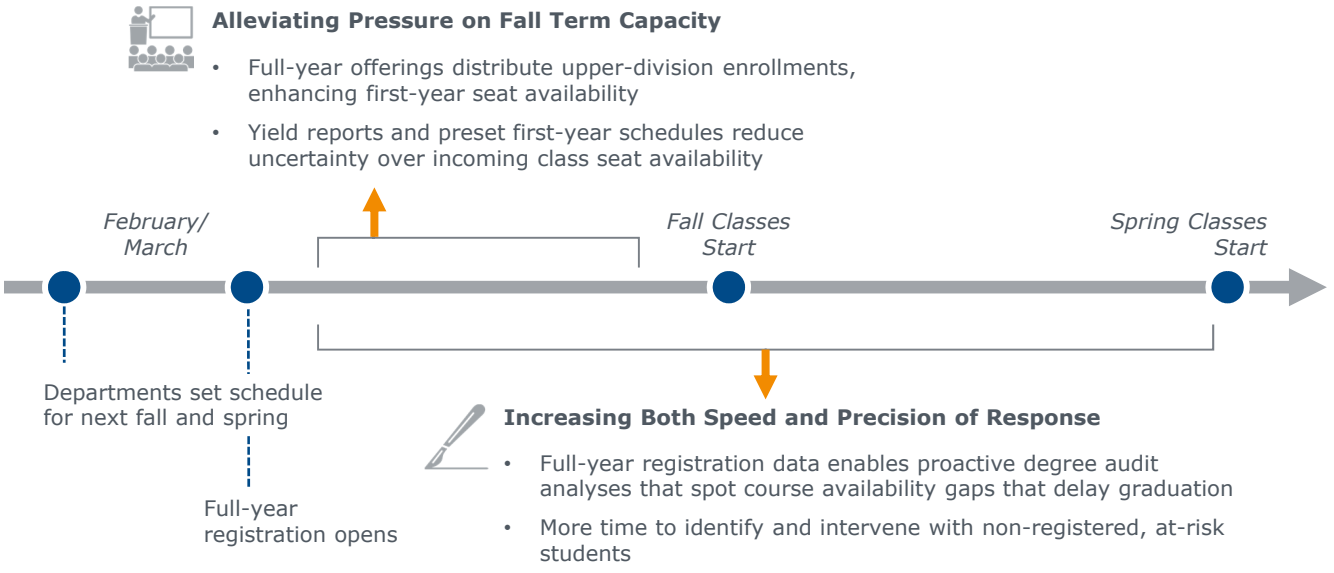
Giving Ourselves Breathing Room

Multi-term Planning Extends Response Time to Adjust for Registration Data

To extend the response time to account for mismatches between demand analysis and capacity, **Michigan State University** moved to a multi-term registration process, which allows students to register for multiple terms at a time. Multi-term registration provides a longer-term view of student demand for courses while giving faculty more time to accommodate that demand. At Michigan State, the schedule is set in the winter, and students register for a full year of courses in March.

Reaping the Advantages of a Full Year of Registration Data:



Michigan State now has a year in advance to plan for spring demand, account for space and instructor needs, contact nonregistered students, run degree audit analyses, and contact seniors missing required courses. Multi-term registration also inherently reduces demand bottlenecks, because students now distribute their enrollments across two terms, leaving more seats open in fall term for incoming students. To include incoming students in their demand analysis, Michigan State also uses enrollment deposit reports by intended major to determine new student demand and to create a preset schedule for first-year students.

While the transition from single-term to multi-term registration requires a significant lift from faculty and departmental staff, it ultimately frees up time later in the year, because faculty only need to make minor tweaks rather than setting an entire term's schedule.

Source: EAB interviews and analysis.

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Good Housekeeping

Avoiding the Potential Pitfalls of Multi-term Registration

After over 20 years of experience with multi-term registration, Michigan State has learned two key lessons about student registration eligibility and academic advising. Under multi-term registration, students could remain registered for courses for which they are financially or academically ineligible after the first term. It is critical to have a policy of canceling courses for students who have missed prerequisites or who have unpaid balances. It is also critical to conduct checks for academic and financial eligibility regularly throughout the year.

Lessons Learned from 20 Years of Multi-term Registration

MICHIGAN STATE UNIVERSITY

✖ Students enroll in spring term courses for which they are financially and academically ineligible

↓

✔ **Conduct periodic data quality checks to maintain accuracy**

- Prerequisite checks conducted throughout term
- Unpaid balances result in automatically dropped schedules

✖ Annual registration period removes forcing mechanism for regular advisor contact

↓

✔ **Mandatory appointments and risk-based caseload management**

- Prevent overwhelming advisors during single registration period
- Keep track of high-risk students outside of registration period

Secondly, requiring students to register only once per year removes the forcing mechanism for students to have regular contact with their academic advisors. To ensure advisor facetime for those students most in need of support, administrators at Michigan State instituted a risk-based caseload system for advising. Advisors can view which of their advisees have urgent concerns based on grades or other indicators. They can then send outreach messages to students asking them to attend an in-person meeting. Advisor capacity permitting, mandatory advising appointments might work as an alternative at other institutions.

Source: EAB interviews and analysis.

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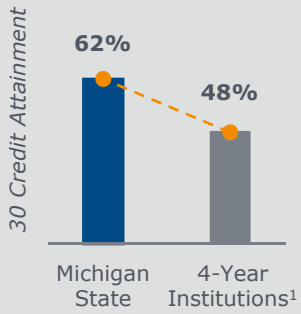
From Short-Term Response to Long-Term Planning

Michigan State University Sees Benefits for Students and Faculty

Michigan State has been conducting multi-term registration for over two decades, so it is difficult to measure the specific impact on time-to-degree. However, the available data indicates that multi-term registration is successful, and students are able to register for a full course load. 62% of students enroll in 15 credit hours at Michigan State, in comparison to only 48% nationally (and 53% at the most selective institutions).[1]

Multi-Term Delivers on "15 to Finish"…

Proportion of students earning 30 credits in first year



MICHIGAN STATE UNIVERSITY

…Supports Enhanced Advising and Resource Allocation

Student Benefits

Shift first-year advising focus from registration to major and career fit

Faculty Benefits

After the first cycle, future scheduling is more effective in terms of time and staffing

"We started annual registration in 1995 to better understand student course demand and to have the time to accommodate that demand. But the real benefit to students comes in their ability to plan long-term and have meaningful conversations with their advisors about those plans."

Dr. Nicole Rovig
University Registrar
Michigan State University

Additionally, when students are already registered for two terms of courses, academic advisors are able to spend less time on course registration throughout the year and focus more on discussing major and career fit. And as previously mentioned, faculty are able to plan for space and instructor needs further in advance and need only take time to set a schedule once per year.

1) Per-year average, credits earned by exclusively full-time beginners at 4-year institutions; BPS Longitudinal Study Cohort 04/09

Source: EAB interviews and analysis.

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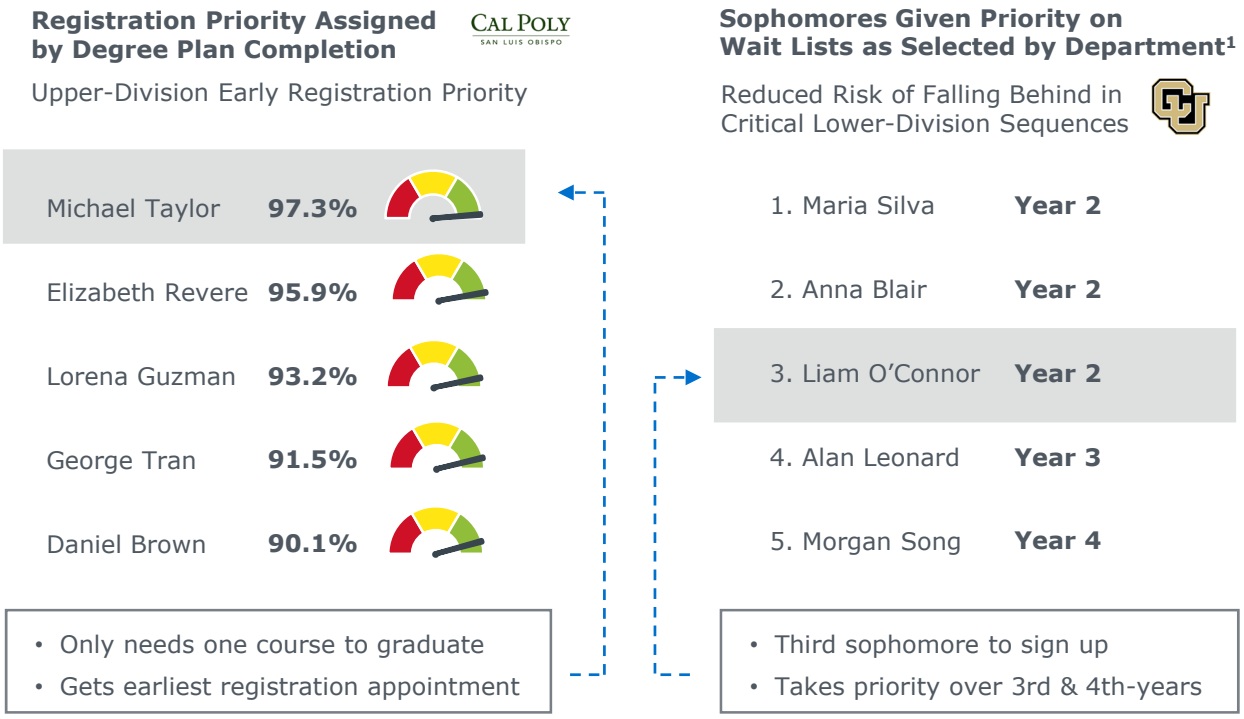
Graduation-Based Registration Rules

Assign Priority by Degree Completion, Not Pure Credits

Even when departments redistribute instructor and space resources to best meet student demand, there are still some students who are unable to register for courses they need. Institutions must find a way to be both proactive and reactive, inflecting registration and wait list priority to help students graduate on time. Two examples from **California Polytechnic State University, San Luis Obispo (Cal Poly)** and **The University of Colorado, Boulder (CU Boulder)** illustrate how priority order in registration and wait list systems can be used as an incentive to ensure students are able to get into urgently needed courses.



Cal Poly bases its registration priority order on degree plan completion; students close to completing degree plans are given the earliest registration dates and times. Cal Poly has integrated degree plans and degree audits, so students can see a meter that measures how close they are to completing a degree plan. This indicator serves as a light nudge to students to consider how their course plans contribute to their degree progress, while the priority registration window serves as a short-term reward for good enrollment behavior—and an assurance that students near completion can quickly graduate.

To account for lower-division students who compete with upper-division peers for seats in critical gateway courses, CU Boulder allows faculty to select critical lower-division courses where sophomores are given wait list priority. Operationally, the faculty control the rules being set, while the registrar controls the mechanics in the registration system. To allow for flexibility, associate deans can override the rules and prioritize individual students with urgent needs.

1) Wait list priority is more likely to be reserved for upper-division students and/or based on major. Selection criteria are determined on a course by-course basis as determined by the academic departments.

Source: EAB interviews and analysis.

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Creating Second Chances for Off-Pace Students

CHAPTER 4

14. Summer Catch-Up Campaigns
15. Degree-Advancing Intersession Courses
16. Regular-Term Accelerated Courses

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Summer Sessions Often Uneconomical

Small, Niche Course Offerings Meet Neither Student Needs Nor Revenue Goals

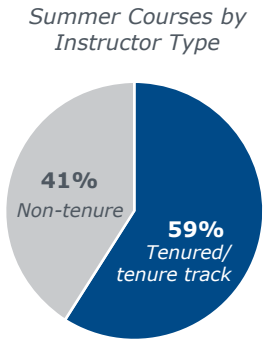
Even when comprehensive preventative measures are put into place, some students will inevitably encounter delays. Institutions can proactively help students recover from missteps by creating visible alternative pathways to on-time completion. Non-traditional terms, such as summer and winter sessions, add flexibility to the academic calendar that can afford students the opportunity to catch up on lost time. Unfortunately, most institutions structure these terms around faculty teaching preferences, rather than for the express purpose of degree advancement.

Excess Supply

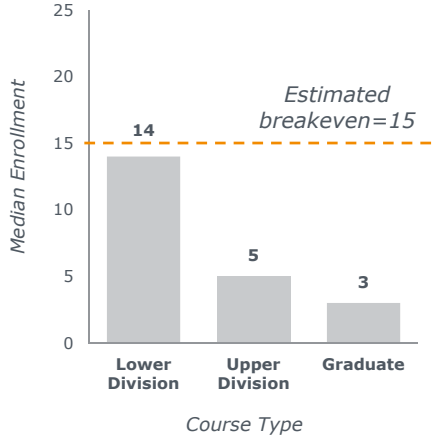
1 in **10** Of course offerings are taught in the summer

5% Of students enroll in summer courses

High Costs, Low Margins



Most Below Breakeven



Summer session, the most obvious "catch-up term" candidate for most institutions, is a prime example of a missed opportunity to help students facing potential graduation delays. An analysis of summer term operations conducted by EAB's Academic Performance Solutions team, which collects and studies institutional instruction data, indicated that summer courses are often uneconomical and do not enroll enough students to generate a positive return or even be cost-neutral. While it is uncertain why summer courses are under-enrolled, a likely possibility is that institutions are simply not offering the courses students want or need to take.

Source: EAB analysis of sample 2015 summer term data from a public doctoral university.

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A Clever Carrot for Impactful Summer Courses

Provost Grant Incentivizes Faculty for High-Demand Offerings

To maximize the impact of summer terms on degree progress, the provost and summer session office at **Purdue University** developed a data-driven incentive program to encourage faculty to provide courses with significant student demand. First, summer session office staff identify a list of high-impact summer courses through quantitative analysis of course fill rates and DFW rates, supported by qualitative feedback from academic advising staff.

PURDUE UNIVERSITY

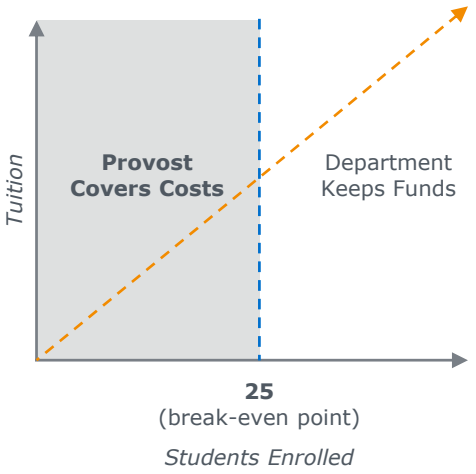
Clear Time-to-Graduation Criteria

THINK SUMMER { THINK AHEAD }

Summer Course Funding Criteria

- Bottleneck (85-100% fill rate)
- Gateway course
- High DFW rate
- Validated by advisors

A Risk-Free Proposition to Units



Then, if a designated course enrolls fewer than 25 students (the estimated breakeven point based on average faculty pay at Purdue), the provost will cover the cost of instruction under the "Provost's Guarantee" incentive program. If enrollment for a Provost's Guarantee course surpasses the breakeven point, however, academic units retain any additional revenue as discretionary funds. This additional layer to the guarantee encourages academic units and instructors to help promote summer courses to students. Demonstrating the power of this incentive, 56% of Purdue's 300+ summer courses were drawn from the list of Provost's Guarantee courses in the first year of the program. Notably, only 5% of guaranteed courses actually required payout by the provost's office, highlighting the accuracy of Purdue's course screening process in identifying demand.

Source: EAB interviews and analysis.

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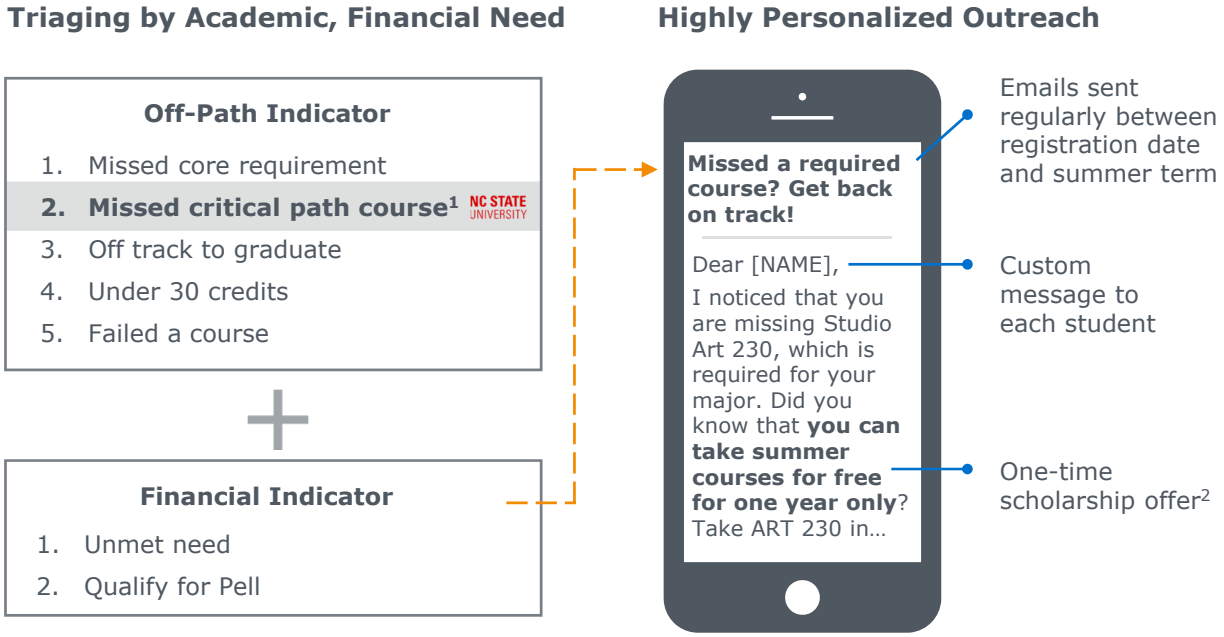
Targeting Students in Need

Segmented, Personalized Outreach to Students with Off-Path Indicators

Purdue also conducts a targeted marketing campaign to ensure that students who need the courses most are made aware of relevant opportunities in summer. Purdue identifies key groups of students who could benefit from summer enrollment, such as students who have accumulated fewer than 30 credits over the past academic year, failed a course, or missed a core requirement. Each of these students gets an email tailored to their circumstance and identifying the course that suits their needs.

PURDUE UNIVERSITY



The messaging is also tailored based on financial need. Purdue employs one-time scholarships available to first-time summer enrollees that enable summer enrollment in conjunction with an on-campus internship or research experience. Purdue also offers need-based summer aid. For instance, students who are on need-based state scholarships, but are off-track to accumulate 30 credits by the end of the academic year (required for aid renewal in Indiana), are eligible for summer aid that covers tuition and fees, room and board, and books. Depending on the capacity of an institution's financial aid budget, strategically awarding financial aid could improve student recruitment for summer enrollment in both the short- and long-term. Furthermore, research at the **Virginia Polytechnic Institute and State University (Virginia Tech)** indicates that students who enroll in summer term once are more likely to enroll again. By enticing enrollment with a single scholarship, Purdue likely motivates recipients to enroll in future summer terms.

1) North Carolina State University targets summer enrollment to students who miss or DFW a course predictive of success in their chosen major.
2) At Purdue, students must submit an application and enroll in 6-9 credit hours and an internship to be eligible.

Source: EAB interviews and analysis.

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Between Terms, a Missed Opportunity

Intersession Offerings Rarely Degree-Applicable or Affordable

For some students, summer enrollment comes at the cost of summer employment, internships, or study abroad opportunities. Many institutions also offer brief intersessions between terms in January and/or May. Typically one to three weeks in length, intersessions are viewed primarily as optional enrichment opportunities. With campus facilities open for courses and activities, however, intersessions have unrealized potential to enroll even more students by offering high-demand courses to meet degree progression needs.

A Focus on Enrichment, Not Advancement

Winter Session Courses 2013

- **ARTS 12** Cardboard Sculpture and Furniture
- **ECON 23** Economics of Wine
- **PHIL 12** Bioethics According to The Simpsons
- **PHYS 15** The Science of Star Trek

–Representative Intersession Courses, Small Private University

Extra Financial Barriers for Students

Additional per-course enrollment fee

Ineligible for Pell

Even if intersession courses carried more degree-advancing potential, they are subject to additional tuition and fees, presenting a financial barrier to enrollment for lower-income students. Furthermore, as intersession terms are not part of the fall or spring terms, students are ineligible to apply federal or state aid to subsidize these credits. To transform intersession into a credible path to degree progression, institutions must make them more degree-applicable as well as more affordable.

Source: EAB interviews and analysis.

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A Second Life for Existing Online Courses

Restructuring Intersession as a Path to Degree Completion

The University of Maine (UMaine) systematically restructured its intersession term to provide its students with an alternative way to reach 30 credits each academic year. Like Purdue, UMaine screened course offerings based on two criteria: historical barriers to student progression (general education bottlenecks, highly sequenced courses, and major requirements), and courses amenable to compression into a fully-online, 5-days-per-week, 3-week format.

Designing a Robust Winter Session

THE UNIVERSITY OF MAINE

Degree-Advancing Impact

- General education bottlenecks
- Sequenced courses
- Major requirements

Course Format

- 100% online
- 3-week duration
- 5 days per week

Faculty Incentives

- Receive extra pay for course overload
- One-time $500 bonus to work with Instructional Design

Making It Financial Aid-Friendly

Billing Overlap

- Winter Session billed as part of spring term
- Allows students to apply spring aid to winter credits

Banded Tuition Rate

12 SCH *16-18 SCH*

Incentivizes students to maximize credit hours

To address potential affordability and access issues, UMaine administrators scheduled their winter session slightly later so that it could be billed as part of the spring term and students could apply state and federal aid to courses taken.

UMaine has a per-credit tuition model, so with the addition of winter session, students have the option to distribute their 30 credits across fall, spring, summer, and winter terms, while paying the same tuition in total. In theory, a banded tuition model would incentivize students to further maximize their course enrollment—but it could potentially increase institutional costs. For institutions with banded tuition, we might recommend dropping the upper credit band to 16 or 17 credits, so that students would be liable to pay for 1-2 credits worth of tuition for winter session courses. A one-credit "discount" for students with financial need could then be used as a winter session recruitment lever.

Source: EAB interviews and analysis.

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Small but Mighty

UMaine's Three-Week Pilot Sees Exceptional Academic Success

UMaine piloted its restructured winter session in January 2016. As planned, faculty offered a total of 20 three-credit courses, mainly major requirements, sequenced courses, and general education bottlenecks. Many of these courses had already been adapted into a compressed and/or online format for summer session, so were good candidates for further acceleration.

A Growing Catalog of Catch-Up Options…

20
3 credit hour courses available

Major Requirements & Sequenced Courses

- Intro to Child Development 201
- Principles of Microeconomics 120
- Intro to Creative Writing 205
- Intro to Food and Nutrition 101
- Intro to Native American Studies 101
- American Government 100
- General Psychology 100

General Education Bottlenecks

- Intro to Astronomy 109
- Human Sexuality 351
- Intro to Mass Communication 100
- Maine and the Sea 211
- Intro to Maine Studies 101
- The Art of Listening to Music 101
- Fundamentals of Music 101
- Intro to Philosophy 102

…Keeps Students On Track to Four-Year Graduation

Credit Accumulation on the Rise

≈650
Enrolled students

+4%
Students taking 15 CH *(spring 2015 vs. 2016)*

+2,000
Total credit hours accumulated

No decrease in spring term credit accumulation

Participants Excel Academically

81%
Winter students attained an A/B grade

66%
A/B grades for fall term course equivalent

Early results from the pilot indicate that winter session is having the intended impact on graduation. UMaine saw 650 students enroll in winter session, which led to a four percentage point increase in the number of students taking 15 credits in spring 2016 vs. spring 2015. Reduced credit attempts during the regular term are one of the main concerns with building out a robust alternative term; however, UMaine's winter session resulted in 2000 additional credit hours accumulated, with no decrease in spring term accumulation. Given the success of the intersession pilot, UMaine is looking to scale the benefits to more students by easing bottlenecks in upper-division courses. By adding availability in winter, UMaine can meet excess demand without compromising the smaller class sizes typically associated with upper-level courses.

Source: EAB interviews and analysis.

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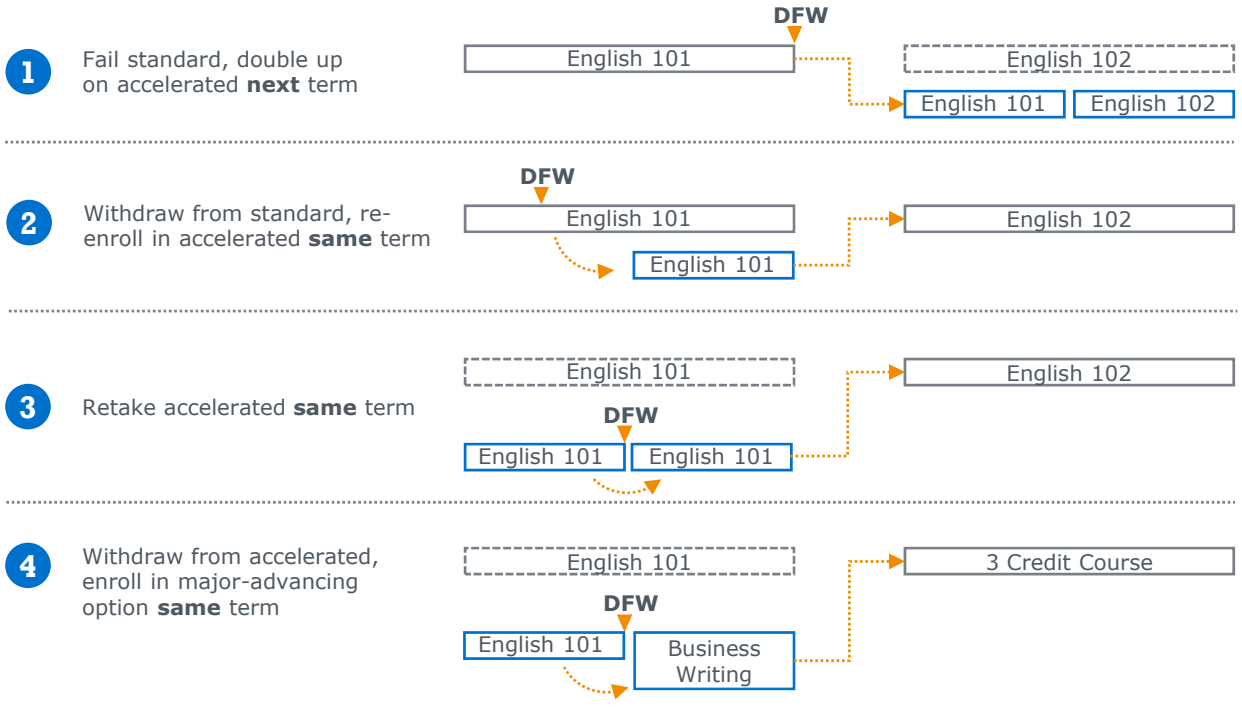
Give Students Multiple Paths to 30 Credits

Avoiding 'Dead Time' in a Term from DFWs

While accelerated courses in the winter and summer are good options to get off-pace students back on track, some institutions are trying to introduce additional flexibility by providing accelerated courses during the regular term. Depicted below are four ways for a student to gain a second chance in the same term if that student were to fail or withdraw from first-year English.

Accelerated Courses Offer Four Ways to Get Back on Pace



If the student were to fail the standard 16-week English course, the student could instead take two accelerated 7-week courses, English 101 and 102, in their second term and remain on pace. If a student was experiencing a difficult college transition, for instance, resulting in their withdrawal from the first half of a 16-week English course, then the student could re-enroll in the accelerated version later that same term. A student might also start off in an accelerated course, then take it again in the next 7 weeks if they were unsuccessful in their first attempt. Similarly, if the student were to fail or withdraw from their first course attempt, he or she might want to explore a different course and/or major option in the second half of the term, in this case Business Writing. In all of these scenarios, regardless of the misstep, a student can regain ground to complete 30 credits within the regular academic year. Especially for those students who drop below 12 credits because of withdrawals and are liable to refund federal aid, accelerated courses in the second half of term can help in maintaining financial aid eligibility.

Source: EAB interviews and analysis.

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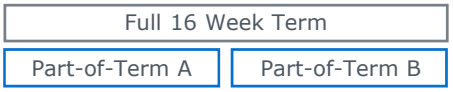
A Student's Catch-Up Is a Professor's Sabbatical

Flexibility Benefits Persuade Faculty to Experiment with Acceleration

To accommodate accelerated courses, **Temple University** built seven-week sessions within its traditional fall and spring academic terms. "Parts-of-term" A and B are each half the length of a traditional term. As part of Temple's "Fly in 4" campaign—a comprehensive, campus-wide graduation guarantee—this mini-term initiative works in conjunction with robust summer session programming to provide multiple alternatives for degree progression and support students in reaching the 30 credit completion benchmark required by the graduation guarantee each year.

Temple University Builds "Parts-of-Term" to Accommodate Accelerated Courses



TEMPLE UNIVERSITY

Faculty Benefit from More Options in Teaching Load Distribution

- Ability to offer popular courses more frequently
- Flexibility to test 1-2 credit courses in new parts-of-term
- Fast-track fulfilled teaching obligation to allow travel/leave[1]

Using Good Examples to Encourage Adoption

"We had **experience with accelerated courses in the summer, so that was a natural starting point** in the transition to the regular term. Moving forward, we need to be more intentional in how we use our different parts of term. We need to **share with departments examples of how parts of term can be used effectively** to keep students on track."

Dr. Jodi Levine Laufgraben, Vice Provost, Academic Affairs Assessment & IR

Both students and faculty benefit from the added flexibility in the academic calendar. Temple faculty can offer high-demand courses more frequently and have the flexibility to test new courses in accelerated or non-traditional formats. In addition, according to a study conducted at Western Kentucky University, faculty can take a mini 7-week "sabbatical," as the fulfillment of their teaching obligation can been fast-tracked in a single part-of-term. These benefits, if communicated to faculty, can help build faculty support for the initiative.

At Temple, parts-of-term are still a nascent initiative. To help build support, the university is relying on faculty who have experience in accelerated course formats in the summer. They intend to work with faculty and departments to share how parts-of-term can be leveraged effectively to help students graduate on time.

Source: Western Kentucky University, "An Increased Emphasis on Bi-Term Courses at WKU?" https://www.wku.edu/convocation/documents/increased_emphasis_on_biterms.pdf; EAB interviews and analysis.

1) Benefit cited by Western Kentucky University.

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Resolving Financial Aid Complications

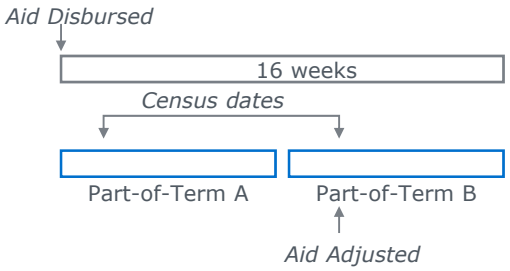
Keep Students Financially Whole Amid Multiple Term Start Dates

Parts-of-term are not without operational challenges, as many university systems and processes are built around the traditional academic calendar. For students, the most consequential of these challenges is establishing financial aid eligibility. To proactively address this concern, Temple University systematized financial aid disbursement and refunds to align with the new complexity parts-of-term added to the academic calendar.

Working Out Kinks in Financial Aid[1]

1. Disburse aid based on initial credit load, not projected full-time enrollment
2. A grace period between census dates allows students dipping below 12 SCH to restore full load before aid adjustments
3. Recover unused aid overages from students dropping below initial credit load after 2nd accelerated term drop/add date

The New Aid Adjustment Cycle



TEMPLE UNIVERSITY

Accelerated Pathways: Beyond "All or Nothing" Without the Added Cost

> "When a student needs to withdraw from a course, having options in that second half of term allows them to stay on track to four-year graduation without any additional cost or debt like if they were to take a summer course."

Dr. Jodi Levine Laufgraben
Vice Provost, Academic Affairs Assessment & IR

At the beginning of the term, Temple disburses student aid based on a student's current enrollment, not projected enrollment (i.e., the financial aid office does not assume a student will take a part-of-term B course if a student is enrolled in 12 credits). Temple's aid office has determined that it is better to adjust aid retroactively rather than provide more upfront funding and subsequently require some students to repay unused aid. Likewise, because of the two-part term structure, Temple does not readjust aid immediately when student drops a course in the first part-of-term; they give the student a chance to sign up for a part-of-term B course. If a student does reduce their credit load from their initial enrollment, Temple waits until the final census after part-of-term B to ask the student to return their unused aid dollars.

Despite these challenges, overall, regular-term accelerated courses financially benefit students, as students can remain on-pace without substantially adding costs by enrolling in alternative terms.

1) For full-time students. Full-time indicates a +12 credit hour load.

Source: EAB interviews and analysis.

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