The Course Completion Playbook

Analyses and Tools to Improve Student Outcomes in Critical Gateway Courses
Joining Us Today…
Meet Your EAB Presenters

Matt Hagerty
Christina Hubbard

Connect with EAB

©2022 by EAB. All Rights Reserved. eab.com
Course Completion as a Student Success Imperative

1. Four Steps to Addressing Course Completion Rates

2. Tactics for Improving Course Completion Rates
Many aid packages or scholarships are dependent on a student having a minimum GPA or full-time status. One institution found that six unproductive credits can lead to an extra four months of time to degree. Students not receiving course credit can lead to lower retention rates. Students who continue for a second year have a completion rate of 86%, while students who leave the institution have a completion rate of 47%.

 Completion Rates, End of Freshman Year

<table>
<thead>
<tr>
<th></th>
<th>n=6,532 freshmen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students who leave the institution</td>
<td>47%</td>
</tr>
<tr>
<td>Students who continue for a second year</td>
<td>86%</td>
</tr>
</tbody>
</table>

## Common Root Causes of Low Completion

### Outside the Classroom

1. **Academically Unprepared**
   - Students with low high school GPAs or who attended academically weak institutions and lack critical study skills
   - Contributing factor, but high school GPA and standardized test scores are often poor predictors of classroom performance

2. **Personal Life Struggles**
   - Financial, mental health, or family issues can prevent students from being fully engaged in coursework
   - Challenging to address in classroom, better suited for counseling and advising staff

3. **Student Demographics**
   - Factors such as socioeconomic background or status as a first-generation student can create unique challenges
   - Institutions can address disparities related to demographic characteristics though support services or inclusive pedagogical approaches

### Inside the Classroom

4. **Instructor Variation**
   - Differences in grading philosophy and pedagogical style can impact student success in the classroom
   - A major driver of higher DFW rates that can be addressed with support for improved pedagogy

---

Source: Academic Affairs Forum, The Course Completion Playbook.
Improvement Efforts Often Met With Skepticism

Faculty Concerns to Addressing Course Completion in the Classroom

**Student Characteristics**
Belief that course failures are a result of unprepared students

**Quality Concerns**
Perception that improving completion rates is at the expense of instructional rigor

**Unfair Solutions**
Concern that redesign increases class size and workloads, or rewards bad teachers with additional resources

**Screening Students**
Use of gateway courses to limit entrance to oversubscribed or competitive majors

Source: Academic Affairs Forum, The Course Completion Playbook.
How Much Variation Is Expected Across Sections?

Range of Section Completion Rates

- **97%** Highest Completion, Average
- **72%** Lowest Completion, Average

Average Range in Section Completion Between Highest and Lowest Averages: **25%**

**Range of Section Completion Rate**
The difference between the highest and lowest completion rates for sections of the same course

---

1) Methodology: Found the range of completion rate for each course with five or more sections at each school in the collaborative, then took the average.

Source: Academic Performance Solutions benchmark collaborative data.
Methodology: Found the range of completion rate for each course with five or more sections at each school, then took the average by department.

Similar courses were identified at each of the 43 institutions using course division, class size and course description, but due to differences between course descriptions across the collaborative, we are not able to offer course-level benchmarking in the APS platform at this time.

Of the four intro-level courses benchmarked, Calculus I had the widest degree of variation at 32%.
Instructor Variation in a Single Course

Large Range in Section Completion Rates for Calculus I

Variation in Calculus Section Completion Rates
Section Completion Rates Across Very Large Research Sample Institution, Fall 2015

Completion Rate

15% 22% 26% 35% 38% 46% 56% 63% 72% 84%

Section

Variation in Calculus Section Completion Rates

Class Size

41 45 39 34 47 50 45 44 43 51

Completion Rate

69%

Range for Calculus I completion, compared to collaborative average of 32%

Source: Academic Performance Solutions benchmark collaborative data.
1. Course Completion as a Student Success Imperative

2. Four Steps to Addressing Course Completion Rates

3. Tactics for Improving Course Completion Rates
Four Steps to Addressing Course Completion Rates

1. Size the Opportunity
   - Quantify DFW rates at the institutional, college, department, and course level
   - Look at both the DFW rate and the absolute number of credits lost due to DFWs

2. Identify Root Causes
   - Academic preparation
   - Non-academic challenges
   - Instructor variation
   - Student socioeconomic and demographic characteristics

3. Prioritize Resources
   - Courses with high DFW rates and high absolute numbers of lost credit hours
   - Courses with high variability in DFW rates by instructor or by student group
   - High-enrollment courses, especially those with capacity constraints
   - Gateway courses that are major requirements or critical prerequisites

4. Engage Faculty
   - Identify interested faculty
   - Provide time, financial resources, pedagogical support, and incentives
   - Address faculty concerns about lowering standards
A Handful of Large Courses Generate Large Share of Unproductive Credits

- All Course Offerings: ~1%
- Attempted Credits: 22%
- Unproductive Credits: 35%

Source: EAB interviews and analysis.
### Same Culprits at Most Institutions

Every Institution Leaking Credits from Same Intro Courses

#### Course Completion Rates in Gateway Courses at Seven Universities

<table>
<thead>
<tr>
<th>Institution Type</th>
<th>Calculus 1</th>
<th>General Biology</th>
<th>Chemistry 1</th>
<th>General Psychology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Comprehensive</td>
<td>70%</td>
<td>82%</td>
<td>68%</td>
<td>84%</td>
</tr>
<tr>
<td>High-Research Comprehensive</td>
<td>54%</td>
<td>74%</td>
<td>62%</td>
<td>89%</td>
</tr>
<tr>
<td>Very Large Research</td>
<td>68%</td>
<td>84%</td>
<td>83%</td>
<td>84%</td>
</tr>
<tr>
<td>Small, Teaching-Focused</td>
<td>61%</td>
<td>79%</td>
<td>80%</td>
<td>93%</td>
</tr>
</tbody>
</table>

### Average Unproductive Credit Rate

- Calculus 1: 37%
- General Biology: 20%
- Chemistry 1: 27%
- General Psychology: 12%

---

1) Academic Performance Solutions data and analysis.
A Clear Opportunity for Improvement

Failure Rates Vary Drastically, Even within a Single Course

Instructors Often a Major Source of Variability

Completion Rates for Sections of Same Course at More Selective, Public Research University

1) Academic Performance Solutions data and analysis.

Source: EAB interviews and analysis.
Drilling into Course Level Differences

Lower Division Has Lowest Median Completion Rates

Completion Rates by Course Division¹
Median Completion Rate by Cohort, AY 2015

<table>
<thead>
<tr>
<th>Course Division</th>
<th>Overall</th>
<th>High-Research Comprehensives</th>
<th>Regional Comprehensives</th>
<th>Small Teaching-Focused</th>
<th>Very Large Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate-Lower</td>
<td>86%</td>
<td>89%</td>
<td>93%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undergraduate-Middle</td>
<td>93%</td>
<td>94%</td>
<td>97%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undergraduate-Ulimate</td>
<td>97%</td>
<td>97%</td>
<td>97%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate</td>
<td>96%</td>
<td>97%</td>
<td>97%</td>
<td>97%</td>
<td></td>
</tr>
</tbody>
</table>

¹) Course level definitions: lower division includes 100 and 200 level; upper level includes 300 and 400 level; graduate includes 500 level and above

Source: Academic Performance Solutions benchmark collaborative data.
Prioritize Resources

Identify Courses Where Improvements Would Have the Greatest Impact

**Course Redesign Prioritization Criteria**

- **Redesigns entire courses** within a department, rather than individual sections
- **Targets general education, introductory, and/or prerequisite gateway courses**
- **Targets courses with historically high DFW (D/F/withdraw) rates**
- **Targets high-enrollment courses with seat capacity constraints**

- **Demonstrates support from departmental faculty, chairs, and deans**
- **Includes a plan for financial sustainability**
- **Describes how the course will use technology to reduce costs and improve outcomes**
- **Preserves academic rigor and course content while adapting delivery methods**

For more information and resources, see the National Center for Academic Transformation’s online repository at [thenccat.org](http://thenccat.org)
The Role of Faculty Learning Communities in Course Redesign

**Phase 1: Exploratory FLC**
- Members pursue individual pedagogical exploration
- Share practice, outcomes, and assessment
- Build consensus around effective pedagogy

**Outcome:** Multiple instructors engaged in individual and collaborative redesign efforts

**Phase 2: Collective Action FLC**
- Agree on common structural elements
- Pilot unified approach + share feedback
- Ongoing discussion and course material development
- Provision of materials to non-FLC instructors

**Calculus I Delivery**

**Redesign Continuum**
~16 month period

**Outcome:** Development of sharable resources and clear recommendations for common practice

1. Course Completion as a Student Success Imperative
2. Four Steps to Addressing Course Completion Rates
3. Tactics for Improving Course Completion Rates
Tactics for Improving Course Completion Rates

Assessment
1. Early and Frequent Low-Stakes Assessment
2. Standardized Assessment

Instruction
3. Active Learning
4. Supplemental Instruction

Course-Level Advising
5. Course Behavior Alerts
6. Automated Withdrawal Advising

Pre- and Post-course Support
7. Growth Mindset Priming
8. Intensive Early Start Cohorts
9. Accelerated Catch-Up Terms
Early and Frequent Low-Stakes Assessment

The Do’s and Don’ts of Low-Stakes, Incremental Assessment

Sample Types of Assessment

- Questions to break up lecture
  - Full class or small group discussion

- Individual or group presentations

- Experiential learning activities (employer-student projects)

Least Intensive

- In-class electronic quiz questions
- Mini-quizzes and activities tied to unlocking homework assignments

Most Intensive

- Learning logs
- Short essays
- Portfolios

Personalized Learning without CBE

CBE = Competency Based Education

“Adaptive Release” Ensures Mastery of Foundational Skills

Econ 122

Pivot Tables Quiz
- Skill critical to course success
- Pass quiz to unlock homework

Unlocks Homework

Spreadsheet analysis assignment

Excel model project

Early results show lasting effects
- 20% higher scores on final
- Higher than average GPAs in next course, Econ 301—3.37 vs. 2.76

Push-button implementation
- Standard BlackBoard feature
- Only a few clicks to activate
- Less than five hours course development time

Boise State “Coherent Calculus” Scales Redesign Benefits to All Students

A Coherent Multi-Section Course

- **Shared textbook and syllabus**
  - Promotes consistent grading policies and material coverage

- **Synchronized homework and quizzes graded by individual faculty**
  - Unifies content delivery timing across sections, fosters student community building

- **High similarity between exams crafted by individual faculty, but reviewed by FLC**
  - Guards against assessment disparities across sections

- **Active-learning strategies incorporated across all FLC-influenced sections**
  - Reinforces material and increases class engagement

**Immediate & Visible Impact on Pass Rates**

- Pre-FLC: 61%
- Post-FLC: 74%

**Non-FLC Instructors Quick to Adopt New Methods**

- 100% of next semester Calculus I instructors adopted redesigned structure and material

**High-Impact, Low Cost**

- Course Release Participation Incentive

The Role of Active Learning in Student Success

Lessons from the Science of Learning

**A+ Improved academic achievement**

- Students retain information at higher rates and gain higher marks on exams
- Tests assessing conceptual understanding 2x higher\(^1\)

**Increased student retention**

- Engaged students more likely to be retained by program and institution
- Reduces technical program attrition by 22%\(^2\)

**Improved student-instructor interactions**

- Creates increased opportunities for engagement between students and instructors
- Student-faculty interaction one of the strongest factors in determining college satisfaction (Gallup-Purdue)

**Supports student transition and peer relations**

- Helps students build positive relationships with peers, fosters healthy adjustment to college
- Cooperative learning, a type of active learning, “promote[s] higher self-esteem than competitive or individualistic efforts”\(^3\)

---

Fostering Interactive Learning in a Large Class Setting

The SCALE-UP Classroom

Key Features

- Three groups of three at each table
- One laptop per group
- Combines lecture, discussion, hands-on experiments, and group work
- Whiteboards and projection screens on most walls
- Instructor moves constantly around the room
- Web-based problem delivery and grading system

Source: North Carolina State University, http://scaleup.ncsu.edu; EAB interviews and analysis.
How to use Tutors to Improve Outcomes

The Role of Supplemental Instruction

- Tutors have limited capacity
- Students uncomfortable with one-on-one attention
- Students ashamed they’re struggling
- Tutors unfamiliar with specific course section content
- Students don’t know what questions to ask
How Can We Help Students Learn More?

Supplemental Instruction

Key Features

- Targets high enrollment courses and high DFW courses
- Peer-assisted, group study and discussion sections meeting several times per week
- Instructor-free zones creating relaxed and safe environment for anxious students
- SI leaders are trained “near-peers” with high levels of proficiency in the course/subject area and are embedded in courses
- Sessions cover:
  ✓ difficult course concepts
  ✓ information recall and real world application
  ✓ study skills
  ✓ communication skills
  ✓ test prep

Scaling Academic Support

36
Number of sections with supplemental instruction

2K
Students served through supplemental instruction

22
Points higher on average on first Calculus exam for regular SI attendees in Calculus I

- Source: “MTSU Unveils Reforms Geared to Improve Student Success,” mtsunews.com; “Quest for Student Success 2013-2016”, MTSU, http://www.mtsu.edu/docs/QuestforStudentSuccess.pdf; Supplemental Instruction at MTSU, mtsu.edu/si; EAB interviews and analysis.
Implementation Guidance

Determine which courses to target

- Large courses, particularly those that are lecture-based
- Courses with high D/F, withdraw rates
- General education courses
- Critical gateway courses

Increase student engagement

- Show students how supplemental instruction can improve learning by providing data on the performance of those who did and did not participate – this is particularly effective coming from instructors
- Provide incentives for students to attend like offering low-cost snacks

Improve student learning

- Create an active learning environment
- Ensure students are able to ask questions/have input into the focus of supplemental instruction sessions
- Provide mini assessment opportunities to help students identify where they may need the most support

Advanced: To help finance supplemental instruction institutions should evaluate areas where tutoring is underutilized and reallocate those funds to supplemental instruction. In addition, consider including chairs and deans in the budgetary conversations to ensure they are given a voice in programming. This will ultimately help support buy-in.

Source: EAB interviews and analysis.
Mississippi State’s “Pathfinders” Program

1 Faculty Prompted to Submit Alerts
- Every two weeks department heads e-mail faculty reminder to submit alerts on any first-year student missing two or more classes. Faculty encouraged to submit alerts on rolling basis
- Deans/chairs contact faculty who don’t submit alerts

2 Pathfinders Office Processes Alerts
- Program coordinator processes alerts daily, creating spreadsheets with flagged students’ contact information
- A student receives only one class attendance intervention per semester

3 Residency Status Determines Intervention Delivery Method

On-Campus Students
- Specially trained RAs contact students living in residence halls

Off-Campus Students
- Program coordinator contacts students living off-campus

Two Simple Reporting Mechanisms

Banner Overlay
- Banner\(^1\) enables faculty to check attendance alert box next to student name on course roster

Pathfinders Website
- Reports also submitted via web-based submission form
- Enables teaching assistants, who do not have access to Banner, to submit alerts

Source: EAB interviews and analysis.
Why Students Withdraw

Students have many reasons for choosing to withdraw from a course or the institution

Some are “good” reasons
- "I’m avoiding a failing grade”
- "I’m overwhelmed and worried about my grades in other courses”

Many are “bad” reasons
- "I’m not earning the grade I want”
- "I dislike the instructor”
- "I don’t want to get up this early”
- "I’ve lost interest in the material”

Suboptimal advising practices let too many students make “bad” choices

Structure
- Few institutions require an advising meeting prior to withdrawing

Quality
- Some advisors simply rubber stamp all withdraw requests

Capacity
- Even the best advisors cannot always dedicate adequate time to assessing all requests

Absent a meaningful conversation, many students do not understand the long-term implications of their withdrawal decisions

Source: EAB interviews and analysis.
Are You Absolutely Sure?

Penn State’s Online Withdrawal Process Highlights Implications

Each Stage of Module Provides New Information and Opportunity to Back Out

- **Broad Implications**
  - Lists impact on aid, time-to-degree, standing, grades, benefits, and enrollment status

- **Initial Student Decision**
  - For course drop, student inputs major, reason for drop, and anticipated grade
  - For withdrawal, student selects from list of 22 academic and non-academic reasons

- **Personalized Advice**
  - Based on info provided in previous step and student degree audit

- **Final Student Decision**
  - Re-lists implications
  - Requires student password to confirm final decision

40% Students dissuaded from course drop¹

1) Estimate based on 2012.

Incorporates Advising into Formerly Transactional Process

Scales Intervention to Avoid Overburdening Advisors

Provides Data to Target Future Institutional Intervention

Source: EAB interviews and analysis.
Implementation Guidance

Direct withdrawing students to meet with their advisors

- Advisors can use survey data to help students develop a personalized plan to complete their degrees at the institution
- Advisors are aware of the breadth of resources available on campus and can recommend support offices to students

Simplify withdrawals for necessary personal reasons

- Permit students to withdraw for health or family reasons without encountering bureaucratic roadblocks
- Identify students with necessary reasons for transfer-out (e.g. desired major not offered) and allow these students to transfer seamlessly

Use data to better predict student attrition risk

- Common student selections in withdrawal survey suggest areas for resource expansion
- Student characteristics can help predict drop-out risk before students withdraw
- Student feedback from exit surveys can be used to improve withdrawal survey options and process

**Advanced:** Institutions should use student answers to the online module to determine follow-up actions. For example, if a student notes that they are struggling with the course work, the tutoring center should follow-up. If the student notes that they are struggling with school-family balance, day-care services should follow-up with the student.
The Role of Resilience

The Achievement Gap and the "Growth Mindset"

The Achievement Gap

Chance of Earning a Four-Year Degree by Age 24

The Growth Mindset

Intelligence Can Be Cultivated Through:

- Effort
- Strategies around studying and test taking
- Support from others

Potential Misapplications:

- Telling struggling students to just try harder
- Praising students for trying when they’ve made no progress
- Expecting students to always have a growth mindset

Building a “Belonging” Mindset

UT Austin’s Innovative Psychosocial Intervention for Risky Students

Welcome!
1. How to Register
2. Student Groups
3. Signature Course Information
4. Changing Colleges
5. Important Campus Resources
6. Vaccine Requirement
7. The “UT Mindset”
8. Honor Code

The Results

Complete online orientation activities
Read articles about the “UT Mindset”
Reflect on material to help future students

Growth Mindset and Belonging Group

"The brain is malleable"
"I realized I’m not alone"

"College-level courses can be intimidating, but don’t give up! We are all a bit scared at first."

Control Group

"Austin’s culture was surprising"
"It sure is hot here"

"College is a new experience, with a lot of big changes to adjust to. You’ll get used to it, I know I did!"

For “Mindset and Belonging” groups, the gap between share of disadvantaged and advantaged students completing 12+ credits in first term reduced by half

Intervention used for all 7,800 incoming first-year students in fall 2014

25-45 minutes
91% Participation

Getting a Head Start on Credit Momentum

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

1. Mandatory “retroactive-enrollment” of borderline admits in summer of previous academic year
   - High GPA
   - Low SAT
   - Low GPA
   - High SAT

2. Students must fill out two FAFSAs

3. Enroll in 6+ summer credits in core requirements
   - English (3 credits)
   - History or Political Science (3)
   - FY Orientation (1)

4. 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.
A Second Chance at a Full Course Load

Withdrawal Redirect Courses Keep Students on Track

Advisors notify drop/fail/withdraw (DFW) students of “fail-safe” option

Traditional 15-Week Course

- Proactive registration not allowed
- Add/Drop Deadline

Online 10-Week Course

- 3-Week Registration Period
- **Course Prioritization**: High demand prerequisites, general education courses, and introductory pre-med courses

- Students avoid losing financial aid eligibility
- Doesn’t use valuable classroom space
- Can be repurposed as “catch up” module

Source: EAB interviews and analysis.
Giving Students Multiple Paths to 30 Credits

Avoiding “Dead Time” in a Term from DFWs

Accelerated Courses Offer Four Ways to Get Back On Pace

1. Fail standard, double up on accelerated next term

2. Withdraw from standard, re-enroll in accelerated same term

3. Retake accelerated same term

4. Withdraw from accelerated, enroll in major-advancing option same term

Source: EAB interviews and analysis.
Flexibility Benefits Persuade Faculty to Experiment with Acceleration

Temple University Builds “Parts-of-Term” to Accommodate Accelerated Courses

| Full 16 Week Term | Part-of-Term A | Part-of-Term B |

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

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

Sources: 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.
Complicating Financial Aid Eligibility

Keeping Students Financially Whole Amidst Multiple Term Start Dates

Working Out Kinks in Financial Aid

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

16 weeks

Census dates

Part-of-Term A

Part-of-Term B

Aid Disbursed

Aid Adjusted

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

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

Source: EAB interviews and analysis.
Conclusion
Principles for Improving Course Completion

1. Share Completion Rates
   Increase awareness of opportunities for improvement by including completion rates department and course planning discussions

2. Carve Out Time to Innovate
   Focus on courses where pedagogical innovation has the most support, engaging faculty that are excited by the opportunity to improve student outcomes

3. Recognize Improvement
   Measure changes over time and acknowledge success that positively impacts students and the institution