

It Takes a Village:

Technology-Enabled Development and Implementation of Guided Pathways Program Maps



Executive Summary

Six years after the Community College Research Center's introduction of Guided Pathways, a comprehensive student success reform, institutions are still navigating how to implement it. The Guided Pathways recommendations aim to provide structured program choice, student support, and defined learning outcomes. To achieve these goals, institutions are encouraged to focus on four objectives:¹

01



Clarify paths to
student end goals

02



Help students
get on a path

03



Help students
stay on path

04



Ensure students are
learning across programs

Approximately 400 [community colleges](#) and numerous [access-focused four-year universities](#) are involved in Guided Pathways efforts, yet many institutions struggle with where to begin and how to overcome logistical barriers. The first objective of Guided Pathways – clarifying paths to student end goals – may feel daunting at first. To be successful, institutions must create and implement academic “program maps,” clear sequences of courses that lead to completion, transfer, or employment.

While creating and executing program maps can be arduous, institutions can leverage technology to speed up the process, implement best practices, and prioritize student needs. Institutions should leverage technology to successfully develop and execute program maps in the following five key areas:

1. Use data-driven decision-making to develop program maps
2. Optimize course scheduling to ensure students can stay on track for their program
3. Create a single source of truth for program pathways to prevent confusion
4. Provide accessibility features to ensure all students can access program maps
5. Showcase employer demand alongside program maps to help students understand outcomes



Guided pathways enabled us to develop a student-centered, career-guided academic experience that led our institution to record-breaking enrollment and student program completion.

- Dr. Adena Williams Loston, President, St. Philip's College, Alamo Colleges District (TX)²

¹ Investing in Student Success at Community Colleges, Community College Research Center, April 2021

² Building Momentum: Using Guided Pathways to Redesign the Student Experience, Center for Community College Student Engagement, 2020

Use Data-driven Decision-making to Develop Program Maps

Competing priorities and clashing opinions can often stall efforts to determine the courses and sequences of program maps. Without a single source of truth, courses and sequences can be arranged in seemingly infinite combinations. Program data can help alleviate this roadblock by providing insight into student demand and historical enrollment trends.

However, obtaining historical enrollment data isn't always easy. Data may live in different systems and yield varying results depending on the source and method of pulling the data. Additionally, retrieval requires extensive staff time and expertise to query data from the SIS or other systems. Institutions can avoid these problems by leveraging a single source of truth that is easily accessible, ensures data efficacy, and prevents stakeholder disagreement over data.

Once program maps are established, institutions need to monitor student and employer demands to ensure programs stay aligned with stakeholder needs. Particularly at community colleges where programs are closely intertwined with the needs of the local workforce, program maps will evolve as needs change. An integrated academic operations platform helps institutions remain agile by enabling them to easily propose, approve, and update program maps, with these changes reflected across the platform.

Example of Program Map Accessible in Coursedog's Catalog

Program Map

Semester 1 (Year 1)

Total Credits: 13

| COURSE CODE | COURSE NAME | CREDITS |
|-------------|------------------------------|---------|
| ECON120 | Intro To Economics | 3 |
| ECON200 | Principles Of Microeconomics | 3 |
| MATH150 | Multivariable Calculus | 3 |
| ECON250 | Econometrics | 4 |

Semester 2 (Year 1)

Total Credits: 12

| COURSE CODE | COURSE NAME | CREDITS |
|-------------|------------------------------|---------|
| MATH180 | Linear Algebra | 3 |
| ECON200 | Principles Of Macroeconomics | 3 |
| MATH240 | Analytic Geometry | 3 |
| ECON350 | Applied Econometrics | 3 |

Descriptive Program Pathways Infographic Available to Students in the Catalog



Optimize Course Scheduling to Ensure Students Can Stay on Track for Their Program

Once institutions determine program maps, they need to ensure the appropriate courses are offered to meet student demand. Institutions need to not only schedule the appropriate number of courses and sections, but also consider factors that impact student registration, such as time of day, modality, and campus location.

Course availability also impacts student satisfaction and persistence at your institution. According to a survey in 2019 on national student satisfaction and priorities, 87% of community college students noted the ability to register for classes with few conflicts was important to them, yet only 66% of respondents were satisfied with class registration that posed few conflicts.³ Approximately of students were unsatisfied with course availability, a strong indicator that a significant number of students were unable to register for appropriate classes and stay on track.



1 in 3 community college students were unsatisfied with course accessibility and offerings during registration

Institutional leaders should use historical enrollment data to inform course scheduling and monitor real-time enrollment data to make necessary adjustments in the moment. For example, real-time enrollment data can help show administrators full courses that may require additional sections to prevent bottlenecks, as well as underfilled courses that are prime for consolidation and subsequent savings.



“It was the lack of availability of classes that really hurt the overall student experience”

- Student, California Public University⁴

³ 2019 National Student Satisfaction and Priorities Report, Ruffalo Noel Levitz, 2019

⁴ Student Impact Survey, Coursedog, 2021

Create a Single Source of Truth for Program Pathways to Prevent Confusion

Institutions that rely on manual data entry to update the curriculum and program requirements in the SIS and catalog risk conflicting information. Without a single source of truth, students may rely on outdated or incorrect program requirements to inform course selection. Unaware of current program requirements, students fall behind on program requisites and delay time to completion.



In most cases, the degree programs were managed separate from the entire class catalog. This meant students had to go back and forth between pages to figure out which classes they needed to take to graduate and then also figure out which classes were offered in a given term. This ultimately made it difficult when planning each semester.⁵

- Student, California Public University

An integrated academic operations platform ensures institutions possess a single source of truth that no longer relies on manual data entry into multiple systems. A bi-directional integration with your SIS ensures that the curriculum, catalog, and SIS all display the same, most up-to-date information. With a single source of truth for the entire institution, colleges and universities guarantee that students can obtain the information they need to set themselves up for success from matriculation to graduation.



Coursedog has helped us with the data integrity process in terms of what we are offering, why are we offering it, and when are we offering it.

- Dr. Jill Wright, AVP Assessment, Accreditation, Academic Services at Illinois Central College

Provide Accessibility Features to Ensure All Student Can Access Program Maps

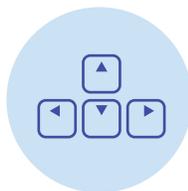
Institutions implementing Guided Pathways need to ensure course catalogs are accessible to all students, regardless of ability. According to the American Association of Community Colleges, approximately 20% of community college students identify as having a disability. Of these students, 4.4% report blindness or visual impairment and 4.6% report a specific learning disability or dyslexia.⁶

To meet the needs of all students, colleges and universities should offer accessibility features such as a screen reader, navigation by keyboard, and color contrast options.

Accessibility Features



Screen reader



Navigation by keyboard



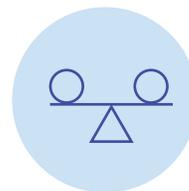
Color contrast options



Screen magnification



Grayscale color scheme option



Moving elements elimination

⁵ Student Impact Survey, Coursedog, 2021

⁶ Students with Disabilities, American Association of Community Colleges, September 2018

Ensure academic operations software used at your institution uses capabilities that allow users to access screen readers. The CIO at Blue Ridge Community College, who noted accessibility as a top priority for their institution, cited this as one of the reasons why they chose to work with Courshedog.



A lot of vendors use technology that's just not compatible. When we were doing our testing of the Courshedog platform, we found that it leverages HTML capabilities to allow access to screen readers.

- Steve Young, Chief Information Office at Blue Ridge Community College



Read more about why Blue Ridge Community College chose to work with Courshedog.

Showcase Employer Demand Alongside Program Maps to Help Students Understand Outcomes

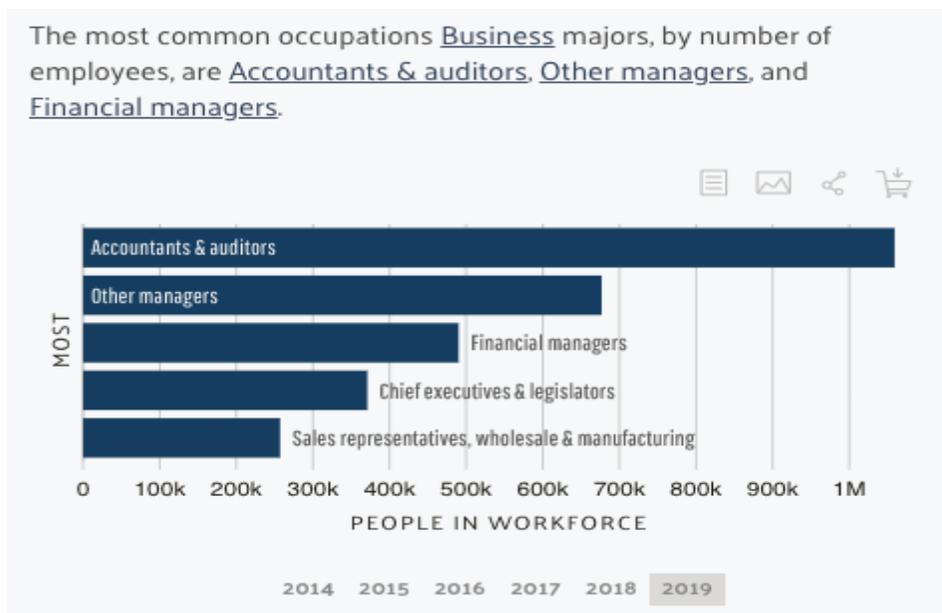
The first Guided Pathways objective, clarify paths to student end goals, aims to not only help students understand the sequences of courses needed for completion, but also the next step of employment or transfer. Career information is critical to persuade prospective students of the value of post-secondary education, particularly among adult learners. According to a 2020 survey, fewer than 1 in 3 adults without degrees reported they understood potential career pathways, valuable skills, and details about potential education programs “very well.”⁷

The Community College Research Center noted that institutions successfully implementing Guided Pathways demonstrate how programs are connected to employment or further education and feature this information on their websites.⁸ Institutions should feature employment data directly in the course catalog. This can often be done with information from the Bureau of Labor Statistics or through a partnership with a labor market data provider, such as [Emsi](#). When exploring the course catalog and programs, students can immediately see potential career paths, salaries, and employer demand for occupations associated with the given program of study.



“Only 1 in 3 college students report their school is “excellent” or “very good” at connecting education to meaningful careers.”⁹

Example of Emsi Labor Market Data Presented in Courshedog Catalog



⁷ Public Viewpoint: Interested But Not Enrolled: Understanding and Serving Aspiring Adult Learners, Strada, September 2020

⁸ Implementing Guided Pathways: Early Insights From the AACC Pathways Colleges, Community College Research Center, April 2017

⁹ Public Viewpoint: COVID-19 and the Value of College, Strada, October 2020



Coursedog



Coursedog is an Integrated Academic Operations Platform. We empower academic administrators with integrated academic and event scheduling, course demand and projections, curriculum, catalog, and academic reporting tools through a single, bi-directional integration with your SIS.

Learn more about how Coursedog can help your institution leverage program demand analytics, create advanced degree maps, and publish an intuitive course catalog to put all students on the path to success.

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with one of our experts today