



RUTGERS EDUCATION AND EMPLOYMENT RESEARCH CENTER

GATEWAY REQUIREMENTS IN COMMUNITY COLLEGE WORKFORCE PROGRAMS

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Rutgers' Education and Employment Research Center (EERC) is housed within the School of Management and Labor Relations. EERC conducts research and evaluation on programs and policies at the intersection of education and employment. Our work strives to improve policy and practice so that institutions may provide educational programs and pathways that ensure individuals obtain the education needed for success in the workplace, and employers have a skilled workforce to meet their human resource needs. For more information on our mission and current research, visit smlr.rutgers.edu/eerc.

ABOUT RUTGERS' SCHOOL OF MANAGEMENT AND LABOR RELATIONS

Rutgers' School of Management and Labor Relations (SMLR) is the leading source of expertise on the world of work, building effective and sustainable organizations, and the changing employment relationship. The school is comprised of two departments—one focused on all aspects of strategic human resource management and the other dedicated to the social science specialties related to labor studies and employment relations. In addition, SMLR provides many continuing education and certificate programs taught by world-class researchers and expert practitioners.

SMLR was originally established by an act of the New Jersey legislature in 1947 as the Institute of Management and Labor Relations. Like its counterparts created in other large industrial states at the same time, the Institute was chartered to promote new forms of labor-management cooperation following the industrial unrest that occurred at the end of World War II. It officially became a school at the flagship campus of the State University of New Jersey in New Brunswick/Piscataway in 1994. For more information, visit smlr.rutgers.edu.

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Community colleges play a unique role in United States higher education. In 2019 alone, community college students earned nearly 879,000 associate degrees and nearly 620,000 certificates.¹ As open-access institutions, community colleges give many students the opportunity to take their first step on an academic pathway. Other students turn to community colleges to help them enhance their skill sets or prepare for entry into the labor market through the completion of one or more workforce education and training programs.

Educators, funders and government leaders across the nation are interested in tracking student success in workforce programs as well as in learning how to improve retention in and completion of both degree and non-degree programs. While gateway requirements are known to affect success and retention rates in community colleges on a general level, little is known about gateway requirements in workforce programs specifically. Do they differ from the typical gateway requirements of liberal arts programs? Do they differ according to the credential being sought, or by college, state or industry sector? Answers to these questions have important implications for how student success is measured, and for future discussions of the content of workforce education.

Research Questions & Purpose

This study examines the frequency with which community college workforce certificate and associate degree programs require gateway math and/or English courses. We also look at how requirements vary by state, credential type, field of study, and institutional characteristics such as size, student body composition including gender race/ethnicity. Reflecting on our policy analysis and literature review, we also raise a number of questions about the benefits or drawbacks of gateway requirements that can help frame future research and educational policy. A better understanding of workforce programs' gateway requirements can provide the foundation for rethinking whether, and which, gateway courses students need to succeed on their educational and career pathways.

Why the Research Matters and Who Should Care

Many community college degree programs and some certificate programs require the completion of one or more college-level math and English courses. Significant scholarship has demonstrated that math and English proficiency requirements act as barriers to student enrollment, academic progress, and the completion of credentials, especially for low income, first-generation and students of color.^{2,3,4} These barriers are often compounded when students

¹ American Association of Community Colleges. (2021). *Fast facts*. <https://www.aacc.nche.edu/research-trends/fast-facts/>

² Center for the Analysis of Postsecondary Readiness. (2021). *Developmental education FAQs*. <https://postsecondaryreadiness.org/developmental-education-faqs/>

³ Douglas, D., & Atwell, P. (2017). School mathematics as gatekeeper. *The Sociological Quarterly*, 58(4), 648–669.

⁴ Broom, S. (2020). *Overrepresentation in developmental education*. <https://strongstart.org/deepening-understanding/resource-library/overrepresentation-developmental-education>

are required to complete remedial coursework prior to enrolling in gateway courses, a determination that is typically made based on standardized test scores.⁵

This study builds on the above scholarship to find out what role math and English gateway requirements play in the earning of workforce education and training credentials – particularly non-degree certificates – at community colleges. As such, our research will inform multiple audiences including Strong Start to Finish, community colleges and policy makers.

- In national data sets like IPEDS, the completion of gateway math and English requirements is considered an indicator of student success. Students who do not complete these courses may therefore be categorized as unsuccessful by default, even if they never registered for gateway courses in the first place. Data from this study could provide new insights on how best to measure success with regard to student progress and credential completion. It could also inform future data collection efforts.
- As community colleges develop and refine workforce programming, this research can help us understand what requirements are appropriate for different educational and workforce pathways.
- Significant data is lacking on workforce programming, particularly with regard to certificates. The data set created for this study may help inform policy makers and institutions about the breadth and depth of workforce programming, the types of workforce programming available, and any associated gateway requirements.
- State and community college system policies often guide gateway math and English requirements. Findings from this study may aid the review of existing policies and the establishment of new ones at the state, system, and institutional levels.

Key Findings

Nearly all workforce associate degree programs had at least one gateway requirement, whereas very few short-term certificate programs had any gateway requirements at all.

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Most workforce programs required at least one gateway course.

Over half of the workforce programs in our study required students to complete at least one gateway course in either math or English. Most of these programs required gateway courses in both subjects.

⁵ Research has shown that these exams have high rates of ‘under-placement’ – that is, placing students into developmental sequences who would have been successful in college-level coursework. Scott-Clayton, J., Crosta, P. M., & Belfield, C. (2014). Improving the targeting of treatment: Evidence from college remediation. *Educational Evaluation and Policy Analysis*, 36(3), 371–393.

Gateway requirements in workforce programs were strongly related to the length of the program.

Nearly all workforce associate degree programs had at least one gateway requirement in either math or English, and over three-quarters required both.

Gateway requirements for certificates were strongly related to how long it took to earn the credential – less than one-tenth of short-term certificates required any gateway courses, while over a third of medium- and long-term certificates had such requirements. By subject, math and English requirements were about equally prevalent among medium- and long-term certificates.

The presence of gateway requirements depends most heavily on credential type, but program of study can also be a factor.

Overall, programs in manual trades and computer science were least likely to have gateway requirements, whereas programs in health and business were the most likely to have them. This finding relates strongly to the types of credentials offered in these fields. Math gateway requirements were prevalent in engineering programs, while English requirements prevailed in health and business programs.

Among medium/long-term certificate programs, gateway requirements were more common non-manual occupations.

About half of engineering and business programs, and a third of health and computer science programs have at least one gateway requirement. Only one-quarter of manual trades and agriculture programs had gateway requirements.

State-level policies matter.

Controlling for credential type and program of study, California's workforce programs were significantly less likely to require gateway courses, suggesting the strong role played by state policy in shaping college requirements.

Conclusion and Recommendations

In this study, we were able to estimate the proportion of workforce programs with gateway requirements, distinguish between requirements in mathematics and English, and point to program and institution characteristics that shaped these requirements. But this is a start rather than a conclusion for three reasons. First, our data do not permit us to understand the relationship between gateway requirements and actual rates of student success in workforce programs. Second, our research does not answer the question of how these courses relate to student career choices and pathways. Third, our data do not examine the content of gateway courses or identify what content results in the best outcomes – academically or in terms of employment. We therefore suggest the following research, curriculum, and policy activities:

- Study the reasons students enroll in workforce programs of study.
- Re-examine the content of both math and English gateway courses and determine what course content and pedagogy produce the best academic and employment outcomes.
- Question the rationale for gateway requirements, both in general and with regard to specific requirements and contexts. For example, does a traditional math gateway course like algebra prepare all students with the math they most need to succeed?
- Further explore how gateway course requirements impact overall student persistence and credential completion. This includes looking at the impact of developmental education requirements prior to enrollment in gateway courses and examining how these practices affect equity of opportunity and outcome.
- Rethink the use of gateway course completion as a measure of student success. The successful completion of a certificate program, regardless of field, should be the measure of success, not success in individual English or math gateway courses.
- Conduct research on student trajectories, including those of new students, returning students, incumbent workers and others, to better understand if and how workforce programs effect successful career pathways. And then, in the light of those findings, revise our educational policies and practices to enhance student success.