

## Students at the University of Southern Mississippi have Better Academic Outcomes When They Take More Courses with ACUE Instructors

Significant positive relationship with GPA, course completion, passing, and success with larger correlations with passing and success for Black students.

At the University of Southern Mississippi (USM), faculty have been completing ACUE microcredential courses since fall 2016. Academic outcomes were analyzed for 24,277 unique students across all of their courses taken at USM between fall 2015 and spring 2020. Analyses found that the higher a student's ACUE "dosage"—based on the number of courses taken with ACUE instructors—the higher their GPA and the more courses they completed, passed, and succeeded in. This pattern of results held even when outcomes were restricted to courses taught by instructors who had not yet started any ACUE microcredential course, suggesting that students are influenced by ACUE instructors in ways that are positively related to their engagement, behavior, and performance in all of their courses. In addition, correlations with passing and success were significantly larger for Black students compared to White students.

### Key Findings

There was a **significant positive relationship between ACUE dosage and students' GPA** as well as the proportion of their courses that they completed, passed, and succeeded in,  $p$ 's  $< .001$ .

- ▶ A student with a dosage of 6—such as from taking 3 courses with ACUE-credentialed instructors—would on average have a GPA that is .132 grade points higher, compared to a student who did not take any courses with ACUE instructors.
- ▶ The **correlations with ACUE dosage were larger for Black students** compared to White students, for proportion of courses passed and succeeded in,  $p = .001$  and  $p = .030$ , respectively.
  - ▶ A Black student who took 3 courses with ACUE-credentialed instructors would, on average, have a GPA that is .15 grade points higher, and pass and succeed in 4.8% more of their courses compared to a Black student who did not take any courses with an ACUE instructor.

When academic outcomes were restricted to only courses taught by non-ACUE or pre-ACUE instructors—to explore whether **the benefit of having ACUE instructors carries over into students' other classes**—there was still a **significant positive relationship between ACUE dosage and students' GPA as well as the proportion of their courses that they completed, passed, and succeeded in**,  $p$ 's  $< .001$ .

- ▶ **Magnitude of those correlations was at least 50% larger for all outcomes**, suggesting that ACUE instructors may hold their students to higher standards, and that their teaching is positively associated with how those students perform in their other classes, such as by improving their growth mindset.
- ▶ There were significant interactions with race for all four academic outcomes examined,  $p$ 's  $< .05$ , such that the **correlation with ACUE dosage was larger for Black students** compared to White students.
- ▶ Examining correlations separately for each racial group indicated that ACUE dosage had a significant positive relationship with all outcomes for all three subgroups,  $p$ 's  $< .0006$ .

Analyses used a dataset of all courses taken between Fall 2015 and Spring 2020 by 24,277 students at USM who took at least one course during that time period with an instructor who completed their ACUE credential by summer 2019 or a matched faculty member. These students took courses with 117 ACUE instructors and 2,074 non-ACUE instructors, and each student had 1-113 courses in the dataset, with an average of 23.

An ACUE “dosage” was calculated for each course based on whether it was taught by a non-ACUE or pre-ACUE faculty member (coded as 0), a faculty member who had started one of the ACUE microcredential courses but hadn’t yet earned the full credential (coded as 1), or a faculty member who had already earned the full credential (coded as 2). Dosage for co-taught courses was calculated through a weighted average of the ACUE status of each faculty member teaching the course. A student’s ACUE “dosage” was then calculated by adding up the dosage of each of their courses. For example, a student who took one course with an instructor who was in the process of earning their ACUE and one course with an instructor who had already earned their ACUE credential would have a dosage of 3. The range of ACUE dosage in the sample was 0 to 35.

## Methodology



All analyses controlled for the total number of courses observed for each student in the dataset, since that would affect their potential ACUE dosage. Analyses also controlled for all available student demographics: race (simplified as Black, White, and all others, based on representation in the sample), gender, age, class year, college generational status, status as an international student, and whether students received a Pell grant. For characteristics that varied over time, such as age and Pell receipt, the average over a student’s courses in the dataset was used. Analyses examining interactions with race used fully interacted models where race was interacted with ACUE dosage and all control variables.

