

# MISSISSIPPI

## *Plugging the Brain Drain: Investing in College Majors That Actually Work*

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## Executive Summary

In April 2022, the Mississippi Office of the State Auditor released a report showing nearly half of Mississippi's recent college graduates no longer work in the state soon after completing an undergraduate degree.<sup>1</sup> That report also showed Mississippi's worsening brain drain problem has become a significant burden to taxpayers and a real threat to our state's economy.

How do we stop this brain drain? One potential solution is to have the state invest more in college degree programs with graduates who are likely to obtain a high-paying job in Mississippi. The State Auditor's office has now analyzed more data to identify which graduates are likely to obtain a high-paying job in Mississippi's economy and which are not.

To complete this additional research, analysts requested new data from Mississippi's State Longitudinal Data System (SLDS), which is a state-funded resource composed of administrative records from more than 25 workforce, education, and human service agencies in the state. Analysis for the report was conducted in part by Mississippi State University's National Strategic Planning and Analysis Research Center (NSPARC), the data clearinghouse for the SLDS.

This new analysis pairs aggregated data from our state's Institutions of Higher Learning with employment data from the Mississippi Department of Employment Security. Additional economic data compiled by NSPARC shows the number of jobs available for graduates of specific degree programs. By combining this data, analysts identified degree programs likely to produce a well-paid Mississippi worker who contributes to our state's economy.

Results of this new analysis show public universities in Mississippi may be able to improve the value they provide to both taxpayers and graduates. Our state should adopt policies from other states and refine our higher education system to produce graduates who complement Mississippi's workforce needs, thereby mitigating the loss of some of our state's most highly educated population. By aligning educational programs with workforce demands and promoting fields with strong employment outcomes in Mississippi, our state can maximize the billions of dollars Mississippi taxpayers spend on higher education.<sup>2</sup>

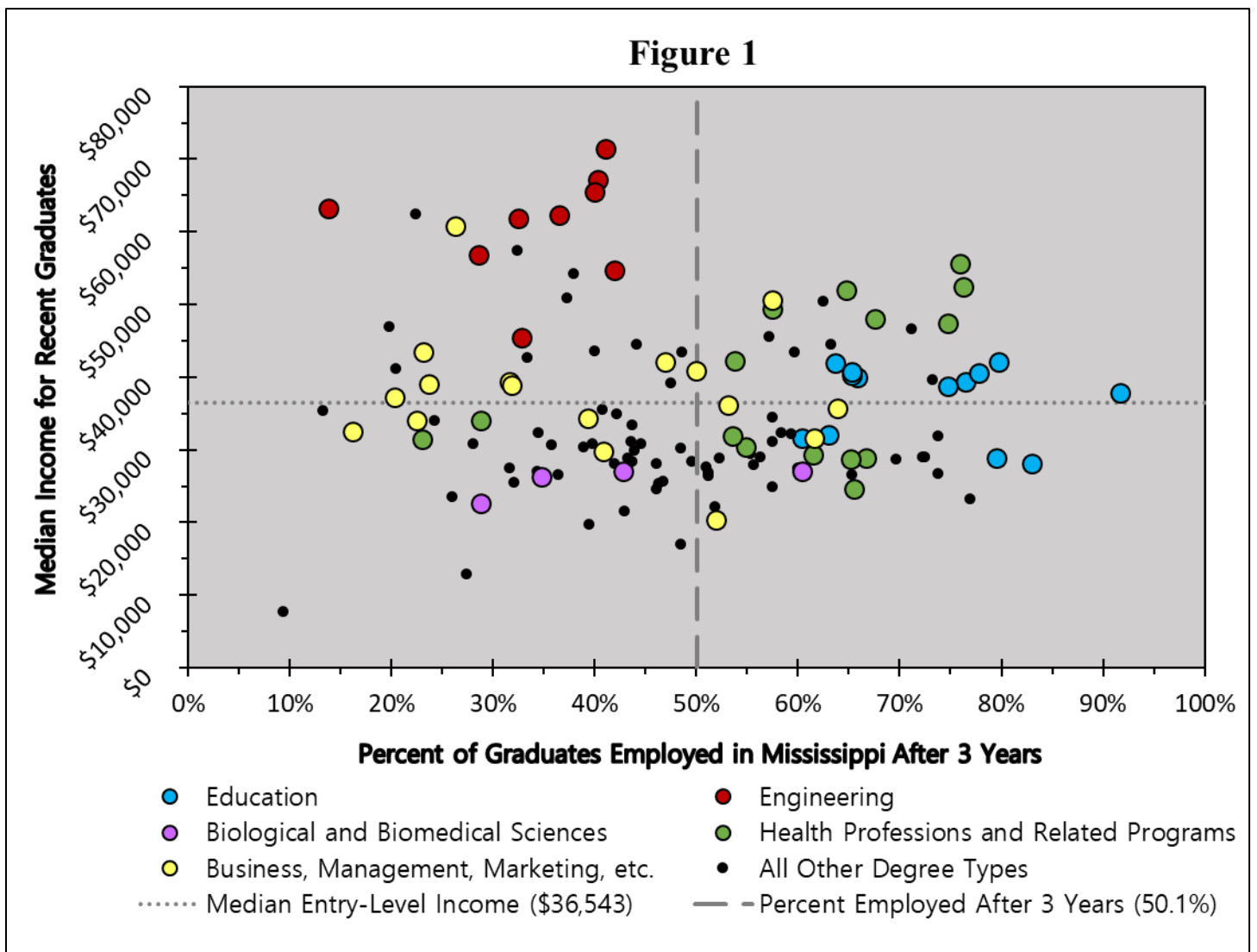
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<sup>1</sup> See Mississippi Office of the State Auditor: [Money Down the Brain Drain](#).

<sup>2</sup> Ibid.

## Some degrees are more valuable to Mississippi's economy than others.

Mississippi's universities offer 32 general degree programs, which are composed of 180 specific degrees.<sup>3</sup> The returns Mississippi taxpayers see for their investment in some degrees far outweigh the returns for other degrees. Figure 1 groups graduates by general degree program and plots the percentage who work in Mississippi after leaving college and their respective median income if they work in Mississippi.<sup>4</sup> The upper-left quadrant of the figure shows degrees that produced graduates who had high salaries in Mississippi but usually left the state. The upper-right quadrant shows graduates who had high salaries and usually worked in Mississippi. The bottom-left quadrant shows graduates who had low salaries and low propensity to work here, and the bottom-right quadrant shows graduates who had low salaries but usually worked in Mississippi.



<sup>3</sup> The number of degree programs available changes as programs are added or dropped by the Institutions of Higher Learning. This statement considers the programs available to the 2015-2017 graduation cohort.

<sup>4</sup> This figure includes only information from the 2015-2017 graduation cohort. Degree programs with insufficient data were omitted.

As shown in Figure 1, Healthcare-related and Education graduates were more likely to work in Mississippi and also earn more money than graduates of most other general degree programs. For example, 75.9% of Registered Nurse program graduates worked in Mississippi after leaving college, and they earned a \$55,590 median income—higher than Mississippi’s current median household income.<sup>5</sup> Additionally, the median income for Education graduates outpaced the statewide median income for other recent college graduates.<sup>6</sup> Of the programs offered by Mississippi’s public universities, these two degree programs—Healthcare-related and Education—also produced more graduates than most other degree programs.

Some high-paying degree programs were not likely to produce graduates who work in Mississippi, and this represents a missed opportunity for the state’s taxpayers. For example, all Engineering and more than half of all Business-related programs produced graduates with a median income above their peers when they chose to stay in the state. However, only 36% of Engineering and 42% of Business-related graduates from the 2015-2017 graduation cohort remained working in Mississippi by 2020. Producing more of these graduates and then retaining even a small number of them would inject millions of additional dollars into Mississippi’s economy. If all degree programs placed just 50.1% of its recent graduates in Mississippi-based jobs, the state’s payroll activity could increase by over \$75 million annually—likely increasing over time as wages grow and entry-level workers progress in their careers.

Many degree programs produced graduates who were not paid well and did not usually work in Mississippi after leaving college. For example, Anthropology graduates earned nearly \$17,000 less than their peers. These graduates were also among the least likely to work in Mississippi. Sociology graduates earned nearly \$12,000 less than their peers, and few from the 2015-2017 graduation cohort actually worked in Mississippi after college. Some programs—like Women’s Studies, African-American/Black Studies, German Language and Literature—placed so few graduates in Mississippi jobs that analysts could not calculate a statistically significant median salary for those graduates. Yet the state invests just as much, per student, in these programs as in Electrical Engineering or Registered Nurse programs.

## **Obtaining a specialized degree resulted in higher income for recent graduates.**

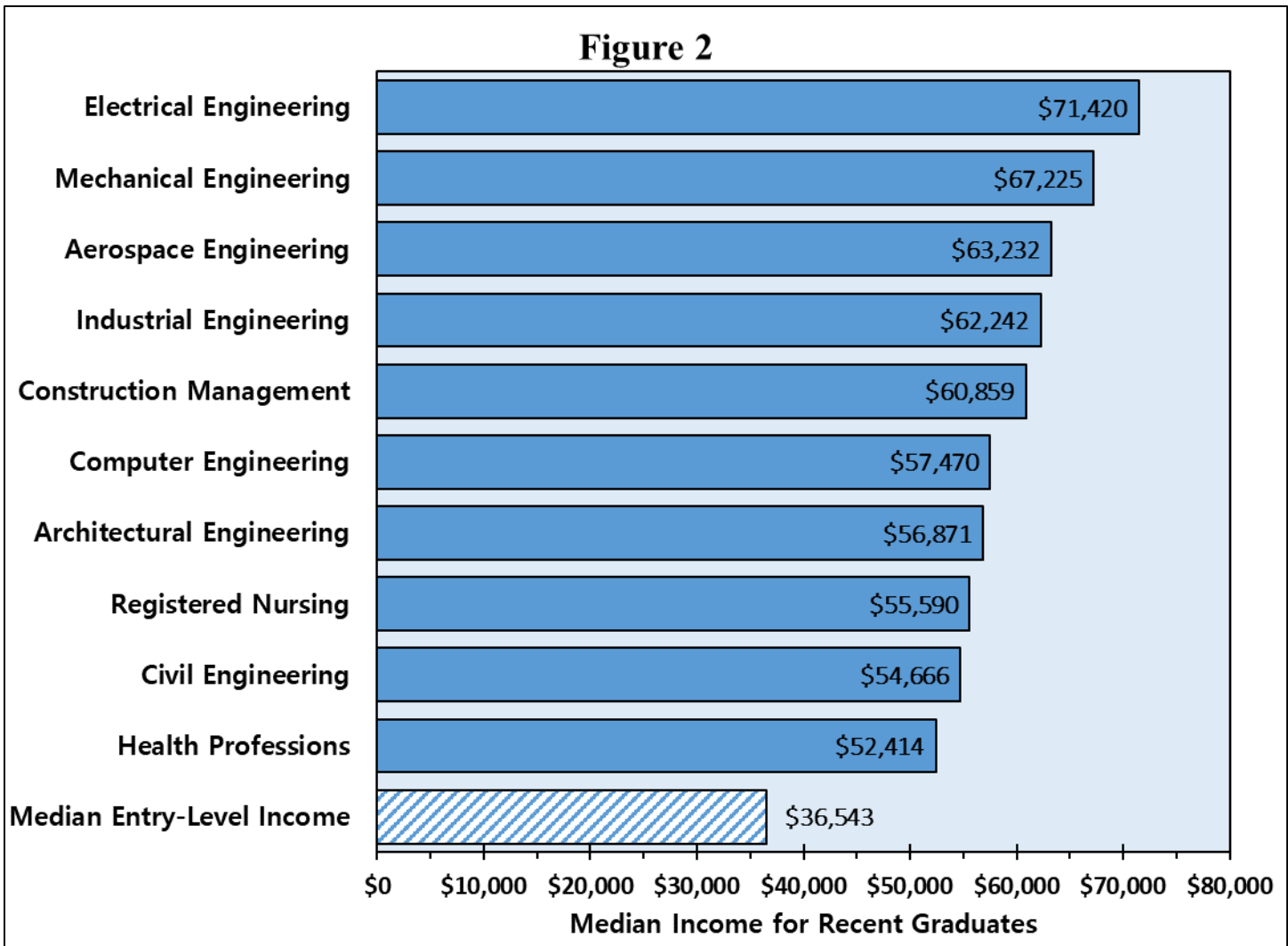
Analysts identified the degree programs that produced graduates with the highest median income from a Mississippi job three years after leaving college. Each of the 10 degree programs with the highest-paid graduates was a science, technology, engineering, and mathematics (STEM) program. Figure 2 shows the 10 degree programs with graduates earning the highest median income.<sup>7</sup>

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<sup>5</sup> This information only includes the 2015-2017 graduation cohort. See United States Census Bureau [data](#).

<sup>6</sup> A public-school teacher pay raise was implemented in 2022—likely boosting most Education-related program graduates’ income.

<sup>7</sup> Figure 2 includes only the 2015-2017 graduation cohort. Only high-income degree programs with over 250 jobs available in 2022 are considered.



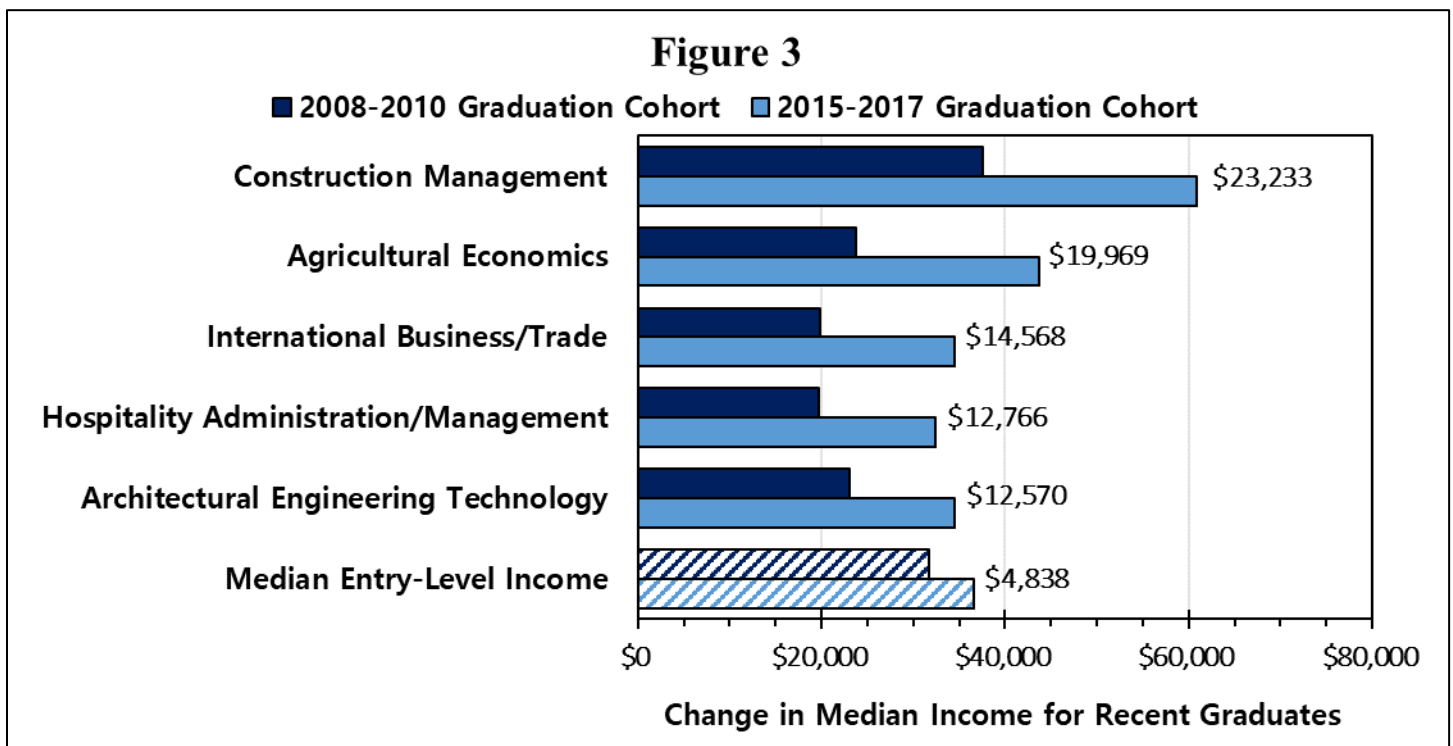
As shown in Figure 2, Engineering programs accounted for seven of the 10 highest-paying degree programs, and these Engineering graduates all earned at least 50% more annual income than their peers. Despite the high earning potential and large number of Mississippi jobs available for graduates of the programs shown in Figure 2, only three of these degree programs produced more than 250 graduates from 2015 to 2017.

Some of the lowest-earning graduates with Mississippi jobs earned degrees from Rhetoric and Composition, Anthropology, or Drama programs. Again, some programs—like Religion, Chinese Language and Literature, and Family Studies—placed so few graduates in Mississippi jobs that the Office of the State Auditor could not calculate a statistically significant median salary for graduates of those programs.

## Taxpayers should know which graduates experience wage growth before investing taxpayer dollars into degree programs. Students should do the same.

As Mississippi's economy moves forward, its workforce needs change. Changing economic needs contribute to the income growth—or shrinkage—for public university graduates who work in Mississippi.<sup>8</sup> Analysts reviewed each degree program at Mississippi's public universities to determine how our state's economy has valued them over time.

One example of a degree program with significant income growth for graduates working in Mississippi has been Construction Management. These graduates boasted the largest entry-level income growth of any degree program from 2008 to 2020—from \$37,626 to \$60,859.<sup>9</sup> The median entry-level income for these Construction Management graduates increased by nearly 40%—nearly five times more than the median income for other new graduates increased during the same time. However, our state's public universities only produced 38 Construction Management graduates from 2015 to 2017 while approximately 1,400 entry-level Construction Management jobs were available in 2022. Figure 3 shows the degree programs with graduates who experienced the most dramatic entry-level income growth over time.



<sup>8</sup> See Federal Reserve Bank of St. Louis [resource](#).

<sup>9</sup> Only specific degree programs with more than 500 jobs available in 2022 are included in this figure.

## Conclusion

Mississippi taxpayers traditionally fund the state's public universities without regard for the degree programs that are most advantageous for the state's economy.<sup>10</sup> By using this funding method, taxpayers give public universities the same amount of money to educate a Dance student as a Computer Engineering student. However, many of the high-value programs are also more expensive to operate.<sup>11</sup> For example, an Engineering program is more expensive to operate than a Sociology program.<sup>12</sup> Because of the cost differential, universities are incentivized to enroll students in cheap-to-operate programs instead of expensive, high-value programs.

Aside from the benefits to the state's economy, universities should be incentivized to nudge students to high-value degrees for the sake of the students. Student debt in the United States has more than doubled in the last twenty years.<sup>13</sup> This debt is more difficult to pay if students pursue degrees which do not lead to good-paying jobs.

Mississippi should change its approach to funding its universities. Several other states have begun to connect university funding to specific workforce needs. For instance, the North Dakota governor has recommended a \$10 million Workforce Innovation Grant to encourage institutions to address "urgent workforce needs."<sup>14</sup> Both Iowa and Colorado have also proposed implementing targeted funding for higher education to address workforce shortages.<sup>15</sup>

In June 2023, Texas Governor Greg Abbott signed a bill to change Texas's community college funding structure from enrollment-based—like Mississippi—to outcome-based, which targets funding for programs meeting the needs of their state's economy.<sup>16</sup> Texas community colleges will now receive additional funding for producing graduates the state's fast-paced economy needs. For instance, if graduates of petroleum-related programs are highly paid and needed in the Texas economy, a community college may receive more money to educate these students. Conversely, if gender studies graduates are not highly paid or being hired in Texas, the community college might receive less money for each student in this program compared to one providing more value to taxpayers. Students who enroll in high-value degree programs will also learn skills more likely to be useful in their careers, and taxpayers will see more value as these graduates fill high-paying jobs.<sup>17</sup>

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<sup>10</sup> See Institutions of Higher Learning Office of Strategic Research [resources](#).

<sup>11</sup> See program-specific professor salary data from [Mississippi State University](#) and [University of Mississippi](#).

<sup>12</sup> Ibid.

<sup>13</sup> See Council on Foreign Relations [report](#).

<sup>14</sup> See 2023-2025 North Dakota Executive Budget [Address](#).

<sup>15</sup> See details about proposals in [Iowa](#) and [Colorado](#).

<sup>16</sup> See [details](#) about Texas's new outcome-based funding measures.

<sup>17</sup> Ibid.

Our state leaders must address Mississippi's brain drain problem, and one way to do that is by aligning the production of our state's higher education system with the needs of our state's economy. Mississippi already has a severe labor shortage.<sup>18</sup> However, this labor shortage is not spread evenly across all professions. Mississippi needs a specific mix of workers. When graduates of certain programs cannot find a job in Mississippi, they move elsewhere. Mississippi taxpayers then subsidize the labor force for big cities in other states.

Reconfiguring the output of our universities could be accomplished by changing the way Mississippi funds its colleges. State appropriations should focus on the degree programs our state's economy values most. Otherwise, taxpayers will face the repercussions of an inadequate workforce and a declining population. **The Legislature should create a study committee of workforce experts—like Texas did—to outline the most- and least-needed programs and design a university funding structure with this in mind.**

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<sup>18</sup> See US Chamber of Commerce [report](#).